



U.S. Department of Homeland Security
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Washington, DC 20472-3172



FEMA

April 15, 2019

SENT VIA CERTIFIED MAIL TO:

Austin Evers
American Oversight
1030 15th St NW, B255
Washington, DC 20005

Re: FEMA Litigation Case Number 2019-FELI-00001

Dear Mr. Evers:

This is the Third interim response to the Freedom of Information Act (FOIA) request submitted by American Oversight to the Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA). The Plaintiff submitted three FOIA requests dated April 19, 2018 to FEMA.

As it relates to Plaintiff's first FOIA request ("Emergency Meals FOIA"), Plaintiff is seeking all records created since August 30, 2017 concerning the following:

1. All records reflecting communications (including emails, email attachments, text messages, messages on messaging platforms (such as Slack, Lync, Google Hangouts, and WhatsApp), telephone call logs, calendar invitations/entries, meeting notices, meeting agendas, informational material, talking points, any handwritten or electronic notes taken during any oral communications, summaries of any oral communications, or other materials) concerning contracts awarded for bids received for contract solicitation number HSFE70-17-R-MARIAMEALS with external entities, including, but not limited to Tribune Contracting LLC, Filcor Inc., Hanna Brothers Enterprises LLC, Alliance Worldwide Distributing LLC, AmeriQual Group LLC, Sopacko Inc., Aguius LLC, and Chef Minute Meals Inc.
2. Records sufficient to show all contracts related to the response to Hurricanes Maria and Irma in Puerto Rico and the U.S. Virgin Islands that have been cancelled, are in default, or have previously been in default.

As it relates to Plaintiff's second FOIA request ("Emergency Fuel FOIA"), Plaintiff is seeking all records created since August 30, 2017 concerning the following:

1. All records reflecting communications (including emails, email attachments, text messages, messages on messaging platforms (such as Slack, Lync, Google Hangouts, and WhatsApp), telephone call logs, calendar invitations/entries, meeting notices, meeting agendas, informational material, talking points, any handwritten or electronic notes taken during any oral communications, summaries of any oral communications, or other materials) between 1) FEMA

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- and 2) Walmart and other food retailers in Puerto Rico (including, but not limited to, Selectos Supermarket, Supermercado Econo and Edwards Food Market) concerning A) requests for fuel from food retailers in Puerto Rico; B) retailer decisions to close for any period of time due to a lack of fuel or power; C) retailer decisions to dispose of, discard or throw away perishable or nonperishable products after Hurricanes Maria and Irma.
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 4. Any and all final memoranda, guidance, reports or summaries concerning, analyzing or referring to A) requests for fuel from food retailers in Puerto Rico; B) retailer decisions to close for any period of time due to a lack of fuel or power; C) retailer decisions to dispose of, discard or throw away perishable or nonperishable products after Hurricanes Maria and Irma; D) FEMA's response to requests for fuel and power assistance from food retailers in Puerto Rico.

As it relates to Plaintiff's third FOIA request ("Hurricane Preparedness FOIA"), Plaintiff is seeking all records created since August 30, 2017 concerning the following:

1. All threat assessments, contingency plans, and plans related to preparedness and response to any potential or actual hurricane strike on Puerto Rico or the U.S. Virgin Islands received, sent, or prepared before September 5, 2017. You subsequently narrowed the date range of documents prepared to May 1, 2017 through September 5, 2017.
2. All other records responsive to Chairman Gowdy and Ranking Member Cummings' October 11, 2017 letter requesting records related to DHS's preparedness and response to Hurricanes Maria and Irma in Puerto Rico and the U.S. Virgin Islands.

On November 28, 2018, Katherine M. Anthony, staff attorney for Plaintiff, clarified by e-mail that with respect to the "Emergency Meals FOIA" request, Plaintiff does not specifically seek contracts, unless there are no other records sufficient to respond to item 2 of this request. Ms. Anthony also stated that if

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there any final, awarded contracts attached to emails responsive to item 1 of the request, Plaintiff would consider those responsive to the request. In addition, with respect to the "Hurricane Preparedness FOIA" request, Ms. Anthony limited the time frame of item 1 from May 1, 2017 through September 5, 2017.

On February 15, 2019, for our first interim response, a total of 870 pages were released in their entirety and four were partially released in response to items one and two of the "Emergency Meals FOIA" request, item two of the "Emergency Fuel FOIA" request, and item two of the "Hurricane Preparedness FOIA" request.

On March 12, 2019, for our second interim response, a total of 554 pages were released in their entirety and five were partially released in response to items one and two of the "Hurricane Preparedness FOIA" request.

For this third release (April 15, 2019), we reviewed 2,227 pages of records, located from a search of FEMA's Office of External Affairs and Region II Regional Office, in response to item 3 of the "Hurricane Preparedness FOIA" request. Of those pages, bates numbered 001433 to 003483, I have determined that 2,051 are releasable in their entirety and 176 are duplicates of pages previously released to you.

If you have any questions concerning this matter, you may contact Assistant United States Attorney Marsha W. Yee at (202) 252-2539 or electronically at or electronically at Marsha.Yee@usdoj.gov and reference 1:18-cv-02470-APM.

Sincerely,



Gregory Bridges
Acting Branch Chief
Disclosure Branch
Information Management Division
Mission Support

Enclosure(s): Responsive Records, 2,051 pages (Bates numbered 001433 to 003483)



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Response Federal Interagency Operational Plan

*Second Edition
August 2016*



**Homeland
Security**

DHS-FEMA-18-0266-C, DHS-FEMA-18-0267-C, DHS-FEMA-18-0268-C.pdf-000001

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Introduction

The National Preparedness System outlines an organized process for the whole community to move forward with their preparedness activities and achieve the National Preparedness Goal. The National Preparedness System integrates efforts across the five preparedness mission areas—Prevention, Protection, Mitigation, Response, and Recovery—in order to achieve the goal of a secure and resilient Nation. A key component of the National Preparedness System is a National Planning System which integrates planning across all levels of government and with the private and nonprofit sectors around key capabilities that can be mixed and matched, as needed, to provide an agile, resilient, flexible approach to prevent, protect, mitigate, respond, and recover.

The National Planning System includes the following elements: (1) a set of National Planning Frameworks that describe the key roles and responsibilities to deliver the core capabilities required to prevent, protect, mitigate, respond, and recover; (2) a set of Federal Interagency Operational Plans (FIOP)—one for each mission area—that provides further detail regarding roles and responsibilities, specifies the critical tasks, and identifies resourcing and sourcing requirements for delivering core capabilities; (3) Federal department and agency operational plans to implement the FIOPs; and (4) comprehensive planning guidance to support planning by local, state, tribal, territorial, and insular area governments, nongovernmental organizations (NGO), and the private sector.¹

This Response FIOP builds upon the National Response Framework (NRF), which sets the strategy and doctrine for how the whole community² builds, sustains, and delivers the Response core capabilities identified in the National Preparedness Goal. This FIOP describes the concept of operations for integrating and synchronizing existing national-level Federal capabilities to support local, state, tribal, territorial, insular area, and Federal plans and is supported by Federal department-level operational plans, where appropriate. The concept of operations and supporting tasks contained in the Response FIOP are scalable, flexible, resilient, and adaptable, allowing the FIOP to be used regardless of cause, size, location, or complexity. Concepts of operations and/or tasks may be modified, added, or deleted depending upon the incident.

Purpose

This FIOP describes how the Federal Government delivers core capabilities for the Response mission area. Specifically, the Response FIOP is an all-hazards plan that describes how the Federal Government coordinates its efforts to save lives, protect property and the environment, and meet basic human needs following an emergency or disaster. The Response FIOP is built on the National Incident Management System (NIMS) concepts and principles and reflects the whole community concept, which incorporates a full range of stakeholders—individuals, families, communities, the private and nonprofit sectors, faith-based organizations, and local, state, tribal, territorial, insular

¹ For the purposes of this FIOP, insular areas include American Samoa, the Federated States of Micronesia, Guam, the Marshall Islands, the Northern Mariana Islands, and the U.S. Virgin Islands. Other statutes or departments and agencies may define the term “insular area” differently.

² The whole community individuals and communities, the private and nonprofit sectors, faith-based organizations, and all levels of government (local, regional/metropolitan, state, tribal, territorial, insular area, and Federal). Whole community focuses on enabling the participation in national preparedness activities of a wide range of players from the private and nonprofit sectors, including NGOs and the general public, in conjunction with the participation of local, state, tribal, territorial, insular area and Federal governmental partners in order to foster better coordination and working relationships.

area, and Federal governments—in national preparedness activities and as full partners in incident response operations.

Collectively, the National Planning Frameworks provide comprehensive and interlocking strategic guidance on how to deliver and integrate core capabilities through each mission area's FIOP. The Response FIOP specifically supports the NRF.

The Response FIOP describes how the Federal interagency partners will provide support to the local, state, tribal, territorial, and insular area entities in the following manners:

- Improve coordination and integration of incident management communications and increase situational awareness and understanding across the whole community
- Provide a proactive and integrated Federal response to incidents
- Maximize the integration of incident-related mission area activities
- Maximize efficient utilization of shared resources needed for effective incident management.

In the instances of imminent terrorist threats and suspected acts of terrorism, Response activities, as appropriate, will be coordinated with the operational coordination structures reported in Annexes B and C, the Biological, Nuclear/Radiological and Oil/Chemical Incident Annexes to the Response and Recovery FIOPs, and the Prevention and Protection FIOPs in order to achieve integration and unity of effort.

Audience

The Response FIOP is directed toward Federal interagency department and agency operations. In contrast, the NRF is intended to be used by a full range of stakeholders. The whole community includes all individuals and household members, specifically inclusive of people with disabilities, children, older Americans, people with different levels of language English proficiency, communities, the private and nonprofit sectors, faith-based organizations, and local, state, tribal, territorial, insular area, and Federal governments—and the Nation as a whole. This Federal plan recognizes success relies upon a whole community approach and is dependent upon Federal interagency collaboration and integration. Departments, agencies, Federal coordinating structures, and interagency partnerships should use this FIOP as a guide for Response operations. While engaging the whole community is critical to successful integration, the Response FIOP is directed toward Federal agency operations. Federal departments and agencies will develop and maintain department-level operational plans, as necessary, to deliver capabilities to fulfill responsibilities under the NRF and this FIOP. Departments and agencies are expected to use existing plans, protocols, standard operating procedures, or standard operating guides for the development of such plans. [Table 1](#) includes the items addressed by the Response FIOP.

Table 1: Guidance for Audiences Provided by the Response FIOP

Response FIOP document addresses:	Response FIOP document does NOT address:
Guidance and a concept of operations to facilitate the development of plans	A contingency or implementation plan based on a specific threat or a scenario
Specific core capabilities that Federal departments or agencies can apply to the Response mission activities	How each Federal department or agency will execute their response missions
Response requirements, coordination structures, and implementation processes for Federal departments or agencies	Information on roles and responsibilities of local, state, tribal, territorial, insular area, private sector, and individuals

Engaging all members of the whole community is essential to national preparedness, and individuals and communities are key components. With equal access to the pertinent knowledge and skills, all members of the community can contribute to national preparedness. This includes children, individuals with disabilities, and others with access and functional needs³; those from religious, racial, and ethnically diverse backgrounds; and people with limited English proficiency (LEP). Their contributions must be integrated into preparedness efforts, and their needs must be incorporated as the whole community plans for and delivers the core capabilities.

Response Core Capabilities

The Response mission area includes the core capabilities necessary to save lives, protect property and the environment, and meet basic human needs after an incident has occurred, as shown in [Table 2](#). It is focused on ensuring that the Nation is able to effectively respond to any threat or hazard, including those with cascading effects, with an emphasis on saving and sustaining lives and stabilizing the incident, as well as the ability to perform these functions during all hazards emergencies. In addition, it focuses on rapidly meeting basic human needs; restoring basic services and community functionality; establishing a safe, secure, and accessible environment for responders and response operations; and supporting the transition to recovery.

³ Access and functional needs refers to persons who may have additional needs before, during and after an incident in functional areas, including but not limited to: maintaining health, independence, communication, transportation, support, services, self-determination, and medical care. Individuals in need of additional response assistance may include those who have disabilities; live in institutionalized settings; are older adults; are children; are from diverse cultures; have limited English proficiency or are non-English speaking; or are transportation disadvantaged

Table 2: Response Mission Area Core Capabilities⁴

Situational Assessment	On-scene Security, Protection, and Law Enforcement
Planning	Mass Search and Rescue Operations
Operational Coordination	Mass Care Services
Public Information and Warning	Logistics and Supply Chain Management
Critical Transportation	Public Health, Healthcare, and Emergency Medical Services
Operational Communications	Infrastructure Systems
Environmental Response/Health and Safety	Fatality Management Services
Fire Management and Suppression	

The functions described in the core capabilities often involve either support to, or the cooperation of, several incident management partners to ensure the integration and transitions between Prevention, Protection, Mitigation, Response, and Recovery activities. Planning, Public Information and Warning, and Operational Coordination are core capabilities shared by all mission areas. The Response FIOP describes the interdependencies within the Response core capabilities. However, the following provides an overview of the interdependencies between the Response mission area and other mission areas:



Figure 1: Integration of the Mission Areas to Achieve the National Preparedness Goal

- **Prevention:** Prevention facilitates effective Federal law enforcement, investigative, intelligence, and operational responses to threatened or actual acts of terrorism within the United States and its territories. It unifies the collective capabilities of the Federal Government to respond to an

⁴ The Planning; Public Information and Warning; and Operational Coordination core capabilities are common to all mission areas.

imminent threat, terrorist attack, and/or follow-on attack. The Prevention mission area focuses on those intelligence, technical, and law enforcement actions that prevent an adversary from carrying out an attack within the United States when the threat is imminent in order to thwart an initial or follow-on terrorist attack. In the instances of imminent terrorist threats and suspected acts of terrorism, prevention activities include the law enforcement response; public safety; crime scene security and preservation of evidence; render safe of chemical, biological, radiological, nuclear, or high-yield explosive (CBRNE) devices; tactical missions; and counterterrorism, counterintelligence, and criminal investigative activities. Prevention efforts interact with whole community response efforts to ensure a coordinated Federal effort and, as necessary, to establish joint priorities across mission space, particularly in areas such as incident site/crime scene access, pre-positioning of assets, operations to resolve threats, public information and warning, and fatalities management. This allows responders to simultaneously save lives, investigate and resolve threats, and/or prevent follow-on attacks. Prevention and response actors must be in communication during times of an imminent threat so that response assets, to the extent practical and appropriate, may be pre-positioned. Both mission areas will be conducted in the same space, at the same time, relying on many of the same organizations for support. Prioritization, deconfliction, and information sharing will be required for synchronized operations and uniformly informed decision making between these two mission areas.

- **Protection:** In the aftermath of an incident, risk assessments for surrounding critical infrastructure may assist in prioritizing response efforts to prevent cascading effects. Efforts to protect people and communities, as well as vital facilities, systems, and resources, are inextricably linked to response efforts. Protection resources and capabilities required to support whole community response operations will be coordinated through the structures identified in the NRF. Protection of critical infrastructure, electronic information and communications systems and services, and the information contained therein and the implementation of plans for the rapid restoration of commercial activities and critical infrastructure operations are crucial aspects of the Protection mission area. Natural disasters and incidents can increase vulnerabilities that require the implementation of actions developed by the Protection mission area. The National Protection Framework provides the structure to assess and address increased vulnerabilities and risks beyond the specific disaster area and ensure that protective posture is not compromised.
- **Mitigation:** Mitigation feeds the operational landscape for response operations. Effective whole community mitigation efforts can directly reduce the required scale of response operations. To address and reduce risks, mitigation employs strategies that involve modification of the physical built environment at a community level, which may reduce the impact of catastrophic incidents and the required response. Threat and hazard information and risk assessment data can trigger crucial lifesaving and life-sustaining operations. This data can be used to develop a better understanding of the situation in order to deliver information for decision making, while easing transition into recovery functions. When incidents impact the ability to communicate effectively or develop impact assessments, risk analysis, and hazard modeling can provide reasonable operational assumptions for responders.
- **Recovery:** Recovery is well-established to ensure that as whole communities transitioning out of response are positioned to find themselves prepared in organizing and planning for major reconstruction and redevelopment necessary for recovery. As response activities and Emergency Support Function (ESF) requirements diminish, the recovery activities take center stage and the ESFs transition to the Recovery Support Functions (RSF), which take over the operational activities that are associated with the recovery. The transition from ESF to RSF is dependent upon the situation.

Organization

The Response FIOP strives to provide an integrated approach to synchronize planning efforts and clarify roles and responsibilities. This is consistent with applicable statutory and other local, state, tribal, territorial, insular area, and Federal laws across local, state, tribal, territorial, insular area, and Federal entities, private sector organizations, and NGOs engaged in disaster or emergency operations. The FIOP serves as a foundation for more detailed Federal department and agency-specific plans and operating procedures.

To promote integration and alignment, each core capability includes the CTs defined by the National Preparedness Goal and the NRF. Corresponding core capability mission objectives (MO) outline the requirements for achieving the CTs. Each of the MOs is supported by end states delineated in each operational phase. The end state for each phase serves as a strategic performance metric that each Federal response partner can use to align plans and expectations. Encouraging the whole community to leverage opportunities to build resilience and mitigation pre- and post-disaster, such as continuity of operations planning, will avoid prolonging or producing more extensive, deeper, and longer-term losses.

The Response FIOP is composed of the following main sections:

- The **base plan** describes the policies and concept of operations for how the Federal Government will support local, state, tribal, territorial, and insular area government response efforts. It also summarizes Federal responsibilities, planning assumptions, response operations, and short-term recovery operations.
- The **functional annexes** describe the overarching mission, concept of operations, tasks, and coordinating structure for each of the 15 Response core capabilities identified in the National Preparedness Goal. The FIOP organizes some of the elements as appendices under an annex due to the operational role the core capability or element provides in implementing the mission of the overarching annex. This role is described in the purpose section of the annex and/or appendix, as appropriate. The location of the functional annexes and associated appendices are listed in Table 3.

Table 3: Functional Annexes by Core Capability

Annex	Core Capability
Annex A	ESF to Core Capability Matrix
Annex B	Planning
	Appendix 1: Risk Management
	Appendix 2: Situational Assessment
	Appendix 3: Geospatial
Annex C	Operational Coordination
	Appendix 1: Public Information and Warning
	Appendix 2: Public Health, Healthcare, and Emergency Medical Services
	Appendix 3: Environmental Response/Health and Safety
	Appendix 4: Fatality Management Services
	Appendix 5: Infrastructure Systems
	Appendix 6: Mass Care Services
	Appendix 7: Mass Search and Rescue Operations
	Appendix 8: On-scene Security, Protection, and Law Enforcement
	Appendix 9: Fire Management and Suppression
	Appendix 10: Synchronization Matrix
Annex D	Logistics and Supply Chain Management (Operational Support)
	Appendix 1: Critical Transportation
Annex E	Operational Communications

- The **incident-specific annexes** will be included in future Response FIOP updates, as appropriate. These annexes will expand the concepts within the Response FIOP to better describe the missions, policies, responsibilities, and coordination processes across incident management and emergency response operations for a wide spectrum of potential notice or no-notice incidents, which require specialized or unique responses. Incident-specific annexes from the NRF remain in effect until such time that they are incorporated into the Response FIOP.

Situation

Risk is the potential for an unwanted outcome resulting from an incident, event, or occurrence, as determined by its likelihood and the associated consequences. Risk is assessed based on applicable threats and hazards, vulnerabilities, and consequences. The Strategic National Risk Assessment (SNRA) identified the threats and hazards that pose the greatest risk to the Nation and provided the basis for establishing the National Preparedness Goal and the core capability requirements for all mission areas. The SNRA affirmed the need for the Response FIOP's all-hazards, capability-based approach to preparedness planning.

For the purpose of Response FIOP development, the impacts of multiple catastrophic incidents with cascading effects were identified, analyzed, and combined to create an operational environment for planning purposes. The catastrophic incident could occur anywhere within the United States or its

territories, across multiple regions; involve multiple urban communities; and result in a substantial number of fatalities and injuries, widespread property loss, and the disruption of essential services across a large geographic area. The occurrence of such an incident would have significant short- and long-term ramifications on the political, economic, social, environmental, logistical, technical, legal, and administrative structures within the impacted area and, to a lesser extent, on the Nation. The response to the incident will require the capabilities of the Nation, to include local, state, tribal, territorial, insular area, and Federal assets; public and private sector resources; NGOs; and individuals at large, in order to save and sustain lives, protect property and the environment, and meet basic human needs.

During and after an incident, survivors within the impacted area include people from diverse cultures, races, and nations of origin; individuals who do not read, have LEP, or are non-English speaking; individuals with access and functional needs, such as individuals with disabilities; people with physical, sensory, behavioral and mental health, intellectual, developmental and cognitive disabilities, including individuals who live in the community and individuals who are institutionalized; older adults with and without disabilities; children with and without disabilities and their parents; individuals who are economically or transportation disadvantaged; women who are pregnant; individuals who have acute and chronic medical conditions; and those with pharmacological dependency.

The affected population also includes individuals with household pets and service and assistance animals. The requirements for transporting and arranging for shelter and care of animals when they need to be relocated from their homes are of significant importance.

Mission and Scope

Mission

The Response FIOP enables Federal departments and agencies and whole community partners, in support of local, state, tribal, territorial, and insular area governments, to effectively respond to all types of incidents that require the capabilities of the Nation. Federal response operations focus on the capabilities necessary to save lives; protect property and the environment; meet basic human needs; stabilize the incident; restore basic services and community functionality; establish a safe, secure, and accessible environment for responders and response operations; and support the transition to long-term recovery. Continuity planning ensures the uninterrupted ability to engage partners; respond appropriately with scaled, flexible, and adaptable operational capabilities; specify succession to office and delegations of authority to protect the unity of effort and command; and to account for the availability of responders regardless of the threat or hazard. The desired end state for Federal incident response is achieved when local, state, tribal, territorial, and insular area entities no longer require the support of the Federal Government to provide lifesaving or life-sustaining support, thereby allowing for the transition to long-term recovery. With that mission in mind, this Response FIOP enables Federal departments and agencies to effectively respond to all types of incidents that require the capabilities of the Nation.

Scope

The Response FIOP describes how the Federal Government coordinates its efforts to save lives, protect property, and preserve the environment in response to or anticipation of an incident. Federal departments and agencies initiate this mission by engaging with whole community partners to identify and prioritize needed Federal response support capabilities and actions within 24 to 72 hours following an incident. Specifically, this FIOP addresses the CTs, responsibilities, resourcing,

personnel, and sourcing requirements to accomplish Federal response objectives across Federal departments and agencies.

The Response FIOP is designed to address a notice or no-notice incident. The Response FIOP base plan and core capability-specific functional annexes primarily address a no-notice incident where the need for Federal support is obvious and immediate, where anticipatory planning and resource pre-positioning were precluded, and where the exact nature of resources and the exact nature of the incident is not known. When there is time to plan for the response to a potentially catastrophic incident, proactive disaster response operations can occur. The tasks and capabilities described in the Response FIOP functional annexes are meant to represent potential Federal resources available for incident response. The incident-specific annexes of the Response FIOP will expand the concepts within the FIOP to better describe the missions, policies, responsibilities, and coordination processes across incident management and emergency response operations encompassing a wide spectrum of potential incidents requiring specialized or unique responses.

Planning Assumptions and Critical Considerations

The following information represents the planning assumptions and critical considerations used in the development of the Response FIOP. Assumptions and/or considerations that pertain to only a specific core capability or a specific incident are delineated in its respective functional or incident-specific annex and/or appendix.

Planning Assumptions

In absence of facts, planning assumptions represent information deemed to be true and are necessary in order to facilitate planning development efforts. Assumptions are a baseline set for planning purposes, and they do not take the place of specific activities or decision points that would occur during an incident.

The following planning assumptions assist in the development of an operational environment for this FIOP. During response operations, assumptions are validated as facts, as necessary. Incident-specific annex planning assumptions, which address non-Stafford Act and Stafford Act incidents, may vary from those listed below.

- Multiple catastrophic incidents or attacks will occur with little or no warning.
- Any incident that may possibly be a terrorist incident (i.e., not clearly caused by natural events) will be treated as an actual terrorist incident, until determined otherwise, by the Attorney General. With that mission in mind, this Response FIOP enables Federal departments and agencies to effectively respond to all types of incidents that require the capabilities of the Nation.
 - Within their statutory authorities, Federal departments and agencies will take all necessary and appropriate action to provide lifesaving and life-sustaining assistance to those impacted by any incident.
- There is only one catastrophic incident occurring at a time.
- There will be cascading effects associated with the incident.
- Resources will not reach the entire impacted population.
- Inter- and intra-local, state, tribal, territorial, and insular area mutual aid capabilities will be exhausted.

- A Presidential Major Disaster Declaration is issued under the authority of the Stafford Act, including concurrent response, recovery, and mitigation activities.
- The incident response will require specialized equipment and adjustments to processes, priorities, and procedures, as appropriate to the operational environment.
- Federal departments and agencies will coordinate and take action under their own statutory authorities and/or under the Stafford Act, as appropriate.
- Existing Federal department and agency statutory or mission responsibilities will reduce the timeliness and limit capacity of Federal resources.
- Situational awareness of the operational environment will be incomplete.
- Critical transportation routes and infrastructure will be disrupted by the incident or by secondary effects, such as populace movement and emergency response efforts.
- Few Federal community-based resources within the impacted area will be able to respond.
- Deployment-dependent Federal response resources will be unable to arrive and provide significant lifesaving or life-sustaining capabilities until 24 to 72 hours after the incident.
- Contractor-provided services are limited by the capacity of the private sector to support contract needs.
- A large number of people in the affected population will have disabilities or access and functional needs, requiring physical, programmatic, and/or communication access.

Critical Considerations

Critical considerations are elements of information that must be taken into account when developing a plan. Incident-specific annex planning considerations, which address non-Stafford Act and Stafford Act incidents, may vary from those listed below.

- Federal departments and agencies are permitted to deploy personnel and resources under their own authority or under the authority of the Stafford Act.
- Travel restrictions implemented by local, state, tribal, territorial, insular area, or Federal authorities or the private sector will impact response operations.
- Personnel deployed by Federal departments and agencies will require temporary housing, food, fuel, sanitation, and water during response operations.
- Human and/or animal disease and/or illness may develop within the affected area.
- Computer and communications systems, which incorporate electronic information, networks, and their services within the incident area, could potentially be inoperable, degraded, or include features that preclude local, state, tribal, territorial, insular area, and Federal collaboration.
- The Stafford Act authorizes the President to direct any executive branch department and agency to engage in lifesaving and life-sustaining activities.
- Departments and agencies conducting other mission area activities with adjusting priorities may assume risk for their own personnel when operating in hazardous environments.
- The Defense Production Act is the primary source of Presidential authorities to expedite and expand the supply of critical resources, services, and facilities from the U.S. industrial base to support the national defense. The term “national defense” includes emergency preparedness

measures conducted pursuant to Title VI of the Stafford Act and the protection and restoration of critical infrastructure.

Concept of Operations

Incidents are typically handled with regard to minimizing loss of life and damage to property in a graduated response with appropriate local, regional, and Federal resources. All jurisdictions should utilize NIMS principles to manage response operations. Some local governments may require additional support from neighboring jurisdictions or state governments. The impacted state(s) will activate their incident management/response support architecture for the provision of additional resources to the extent that state capabilities (e.g., Emergency Management Assistance Compact [EMAC] and other arrangements through which non-Federal capabilities additional to organic state capabilities are made available) can permit.

Coordination of Federal Response Activities

The Federal Government maintains a wide range of capabilities and resources that may be required to deal with domestic incidents in order to save lives and protect property and the environment while ensuring the protection of privacy, civil rights, and civil liberties. To be successful, any approach to the delivery of Response capabilities will require an all-of-Nation approach. All Federal departments and agencies must cooperate with one another, and with local, state, tribal, territorial, and insular area governments, community members, and the private sector to the maximum extent possible.

Regardless of the type of incident, the President leads the Federal Government's response efforts to ensure that necessary resources are applied quickly and efficiently to manage the incident. Different Federal departments or agencies lead coordination of the Federal Government's response depending on the type and magnitude of the incident and are also supported by other agencies who bring their relevant capabilities to bear to support those affected. For example, FEMA leads and coordinates Federal response and assistance when the President declares a major disaster or emergency under the Stafford Act. The Department of Health and Human Services (HHS) leads the Federal public health and medical response to public health emergencies and emergencies under the NRF in accordance with its own independent authorities.

Figure 2 depicts how authority for response activities is dependent upon the incident. Federal departments or agencies may lead or coordinate responses under their own inherent statutory authorities. Pursuant to Presidential directive, the Secretary of Homeland Security is the principal Federal official for domestic incident management.⁵ The same presidential directive also assigns specific responsibilities to the Attorney General, Secretary of Defense, Secretary of State, and the Assistants to the President for Homeland Security and National Security Affairs and directs the heads of all Federal departments and agencies to provide their full and prompt cooperation, resources, and support, as appropriate and consistent with their own responsibilities for protecting national security, to the Secretary of Homeland Security, Attorney General, Secretary of Defense, and Secretary of State in the exercise of leadership responsibilities and missions assigned.

Per Executive Order 12148, the Secretary of Homeland Security has been delegated most of the functions given to the President under the Stafford Act. The Secretary, in turn, has delegated those responsibilities to the FEMA Administrator. With the Stafford Act responsibilities and additional authorities under the Homeland Security Act of 2002, as amended by the Post-Katrina Emergency Management Reform Act, the FEMA Administrator coordinates response operations and tasks and funds other Federal departments and agencies that would not otherwise have been authorized to

⁵ Except for those activities that may interfere with the authority of the Attorney General or the FBI Director, as described in PPD-8.

provide support to save lives and protect property. Presidential directives and Stafford Act authorities delegated by the President under Executive Order 12148 work in conjunction with each other.

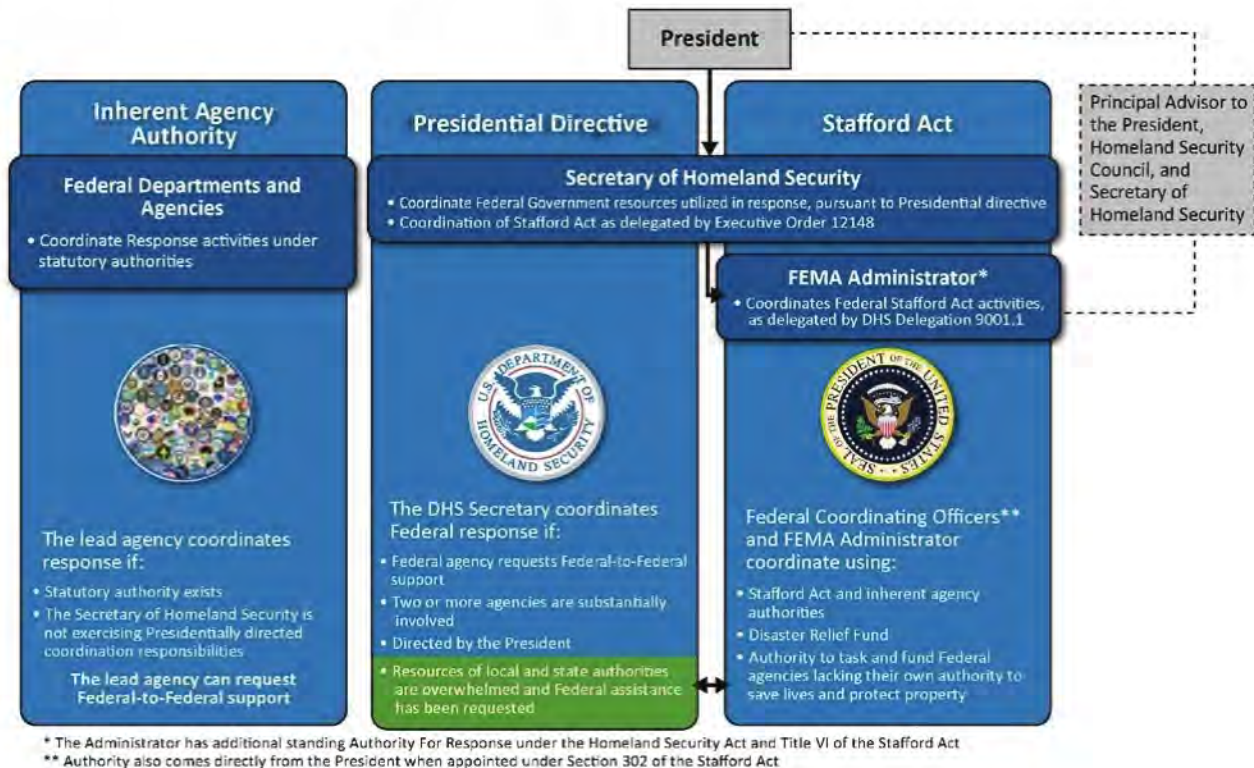


Figure 2: Authorities for Coordination of Federal Response Support

Provision of Federal Response Capabilities

The degree of Federal support for response depends on the severity of the incident; the authorities invoked; and the ability of local, state, tribal, territorial, and insular area entities to manage the incident and any associated cascading incidents. Federal response operations leverage expertise and resources from stakeholders at all levels, both governmental and nongovernmental, and incorporate a range of preparedness, response, and recovery elements.

Resources and capabilities including emergency teams, support personnel, specialized equipment, operating facilities, and assistance programs are delivered through the Response core capabilities, which organize the essential elements of Federal support and coordination. ESFs, each led by a Primary Agency, are the coordination mechanisms for the delivery of each of the core capabilities under a Stafford Act response. Specific ESF missions, organizational relationships, and Primary and Support Agency responsibilities are defined in the ESFs, as well as other plan annexes or appendices.

Table 4: Default Phased Posture ⁶

1a	1b	1c	2a	2b	2c	3a
Normal Operations	Increased Likelihood or Elevated Threat	Credible Threat	Activation, Situational Assessment, and Movement	Employment of Resources and Stabilization	Intermediate Operations	Long-Term Recovery Operations

During Phase 1 (Pre-Incident), local, state, tribal, territorial, insular area, and Federal entities determine existing logistics and resource capabilities, develop deliberate plans and procedures, and conduct training and exercises to validate existing plans. In addition, continuity operations and planning need to be incorporated to facilitate the performance of response core capabilities during all hazards emergencies or other situations that may disrupt normal operations. Phase 1 consists of three sub-phases, which range from steady-state operations to the positioning of resources prior to the occurrence of an incident. Actions taken during Phase 1 are focused on awareness, preparedness, mitigation, and protection. During a notice incident, there may be an elevated threat (Phase 1b) and credible threat (Phase 1c) for which response actions must be taken and will be detailed in incident-specific annexes, as warranted. Phase 2 (Response) consists of the immediate response, deployment of resources and personnel, and sustained response operations. Phase 3a refers to recovery activities that occur as a part of the Response mission area to facilitate the transition and support to the Recovery mission area. Phase 3a includes short-term recovery operations (e.g., repopulation of the impacted area) and long-term recovery operations (e.g., transition to ongoing recovery and mitigation activities). In many incidents, no clear transition exists from one phase to the next, and phases may run concurrently. As such, during incidents that affect multiple states and/or FEMA regions, different jurisdictions may transition through the phases at various paces depending on the impact to the respective geographical area.

Response operations require collaboration across the Prevention, Protection, Mitigation, Response, and Recovery mission areas to ensure proper integration. Across all mission areas, lifesaving and life-sustaining activities remain the priority during an incident response. When possible, Federal interagency partners may utilize agency resources and authorities to prepare for an incident, as well as to initiate appropriate preparatory and mitigating measures to reduce vulnerabilities. Mitigation opportunities are evaluated throughout disaster operations, as decisions made during response and recovery operations can enhance or hinder subsequent mitigation activities. Once an incident occurs, the priority shifts from preparedness activities to immediate and short-term response activities to preserve life, property, the environment, and the social, economic, and political structure of the community. Recovery operations are initiated, as appropriate and per the Recovery FIOP, based on local, state, tribal, territorial, and insular area needs. The transition from response to recovery will not impede response operations. Both operations will closely coordinate to prevent duplicative activities and promote the efficient leveraging of resources.

Activities conducted under the Response mission must be consistent with all pertinent statutes and policies, particularly those involving civil and human rights, such as the Americans with Disabilities Act of 1990, Rehabilitation Act of 1973, and Title VI of the Civil Rights Act of 1964.

⁶ Oil and hazmat responses under the National Oil and Hazardous Substances Pollution Contingency Plan (as described in the Oil/Chem Incident Annex) are considered under phases as described in that plan.

Coordinating and Delivering Response Core Capabilities

The response to a catastrophic incident, and any cascading effects, requires a coordinated effort involving local, state, tribal, territorial, insular area, and Federal governments, NGOs, and private sector partners. All response partners, organized by ESF, utilize NIMS to facilitate usage of a common terminology, including the establishment of plain language (clear text) communications standards, accessible and actionable effective communication for whole community access, integrated communications, unified command structure, and comprehensive resource management to ensure effective coordination between all stakeholders.

Emergency Support Functions

ESFs are the primary, but not exclusive, Federal coordinating mechanisms for building, sustaining, and delivering the Response core capabilities. The Federal ESFs are the vital structures for responding to Stafford Act incidents. These structures may also be used for Federal-to-Federal support responses or some non-Stafford Act Federal responses such as organizing select Federal operations during National Special Security Events to be prepared for a potential incident. However, for most non-Stafford Act incidents, structures other than ESFs are used by the lead Federal agencies. Departments and agencies use NIMS structures that are appropriate to their authorities. Federal ESFs bring together the capabilities of Federal departments and agencies and other national-level assets.

Federal ESFs are not based on the capabilities of a single department or agency, but represent groups of organizations that work together to deliver core capabilities and support effective response operations. Federal ESFs also support a number of responsibilities and actions that extend beyond the scope of Response core capabilities.

ESFs may selectively be activated by FEMA for Stafford Act incidents or as directed by the Secretary of Homeland Security to support activities for both Stafford Act and non-Stafford Act incidents. Not all incidents requiring Federal support result in the activation of ESFs. Federal departments and agencies acting under their own legal authority may request the Department of Homeland Security (DHS) to activate relevant ESFs. Pursuant to Presidential directive, the Secretary of Homeland Security coordinates with the head of the department or agency with primary legal authority but retains the authority to activate ESFs or other coordinating structures, as appropriate.

Federal ESF coordinators oversee the preparedness activities for a particular ESF and coordinate with the ESF's Primary and Support Agencies. The following roles and responsibilities are applicable to all participating Federal departments and agencies:

- Recruit, equip, train, and credential personnel; exercise; capture lessons learned; and refine department and agency plans and procedures.
- Conduct contingency and operational planning in conjunction with local, state, tribal, territorial, insular area, and Federal governments; the private sector; and NGO partners.
- As an ESF Primary or Support Agency, prepare the Federal ESFs at the national and regional levels to support and sustain the overall Federal coordinating structures established at the National Response Coordination Center (NRCC), the Regional Response Coordination Centers (RRCC), and appropriate Joint Field Office (JFO).
- Maintain shared situational awareness via an established common operating picture.
- Synchronize information sharing and disseminate appropriate information using established systems and channels to facilitate maximum benefit and timeliness of delivery to policymakers, responders, and the public.

- Ensure the safety and health of personnel by developing and communicating a health and safety plan, ensuring proper training, and providing appropriate personal protective equipment (PPE).
- Participate in the development of a comprehensive public information program that ensures that the Federal Government speaks with one voice through each phase of an incident and is accessible to the whole community.
- Conduct continuity, contingency and operational planning in conjunction with local, state, tribal, territorial, insular area, and Federal governments; the private sector; and NGO partners to maintain the ability to respond during all situations.

Request for Federal Support under the Stafford Act

Federal assistance to save lives; protect property and the environment; and meet basic human needs may be available to the states under the Stafford Act and other Federal authorities. Under some Federal laws, Federal response actions may be taken without a request from the state. When an incident is anticipated to exceed local, state, tribal, territorial, or insular area resources, the Governor⁷ of a state or Chief Executive of a federally-recognized Indian tribe may request Federal support through the Stafford Act or other authorities. The Stafford Act authorizes the President to provide financial and other support to local, state, tribal, territorial, and insular area governments to support response, recovery, and mitigation efforts following a Presidential Emergency or Major Disaster Declaration. Prior to requesting a declaration under the Stafford Act, the Governor or Tribal Chief Executive must find that the situation is of such severity and magnitude that effective response is beyond the capabilities of the state/tribe and the affected local governments and that Federal assistance is necessary. In addition, the Governor or Chief Executive must take appropriate response action under state/tribal law and direct execution of the state's/tribe's emergency operations plan.

The completed request, addressed to the President, is submitted through the Federal Emergency Management Agency (FEMA) Regional Administrator, who evaluates the request and makes a recommendation to the FEMA Administrator. The FEMA Administrator, in coordination with the Secretary of Homeland Security, then makes a recommendation to the President. The Governor and/or Chief Executive, appropriate members of Congress, and Federal departments and agencies are immediately notified of a Presidential declaration.

Prior to and during catastrophic incidents, especially those that occur with little or no notice, the Federal Government may mobilize and deploy assets in anticipation of a formal request from a state or tribal government for Federal support. Proactive efforts are intended to ensure that Federal resources reach the impacted area in time to assist in restoring any disruption of normal functions of local, state, tribal, territorial, and insular area governments and are done in coordination and collaboration with governmental entities, the private sector, and NGOs, when possible.

Non-Stafford Act Federal Response Capabilities

Federal departments or agencies may conduct Federal response actions under their own non-Stafford Act authorities using funding sources other than the Disaster Relief Fund (e.g., mutual assistance agreements) and do not require a Stafford Act declaration. The NRF provides additional guidance on departments' and agencies' roles and responsibilities.

Under some Federal authorities, tribal or local governments may also seek assistance directly from the Federal Government for non-Stafford Act incidents. Immediate lifesaving assistance to states, as

⁷ "Governor" is used throughout this document to refer to the chief executive of states, territories, and insular areas.

well as other types of assistance, such as wildland firefighting support or response to an agricultural disease or cybersecurity incident, are performed by Federal departments or agencies under their own authorities and funding or through reciprocal mutual assistance agreements and do not require a Stafford Act declaration.

Resource Management

The disciplined and coordinated structures and processes described in the Response FIOP must be able to surge resources from the whole community. Public-private sector engagement highlights the various roles the private sector plays in emergency management, including:

- Serving as a partner in preparedness by cooperating in planning efforts, training, and exercises with governmental partners
- Providing the government with sector-specific information during a disaster
- Providing resources that the private sector may have to support emergency response efforts
- Serving as a significant component and partner to the restoration of the economy.

The number, type, and source of resources must be capable of expanding rapidly to meet the changing needs associated with a given incident and its cascading effects. The Response FIOP includes a “push-pull” strategy to distribute resources. When necessary, FEMA’s Logistics Management Directorate may push commodities to the incident area for field activities. Once the Region has developed and communicated a response strategy, resource distribution reverts to a pull strategy for sustainment that supports regional requests for resources.

Delegating control of Federal resources enables officials at various levels to organize, plan, and utilize resources necessary to accomplish incident objectives. Agencies retain statutory and regulatory control of their assigned resources throughout the incident response. The FEMA Administrator and regional administrators delegate control of their own resources to the Federal Coordinating Officer (FCO) when he or she is designated and mission capable. The FCO then manages and directs assigned FEMA resources to accomplish incident objectives. The authority to control, direct, and assign resources to accomplish incident objectives remains at the incident level. The prioritization and adjudication of resources is based on support requirements of leadership in the incident area; Federal facilities and field teams; and local, state, tribal, territorial, and insular area emergency operations centers.

As needs grow and change, responders and response processes must remain adaptable. When traditional resources are exhausted or not available, atypical lifesaving and life-sustaining resources are utilized to meet operational requirements. To meet personnel shortages, community members may often be the primary source of manpower in the first hours and days after a catastrophic incident. Given the scope and magnitude of a catastrophic incident involving cascading incidents, legal, policy, and regulatory waivers/exemptions/exceptions may be required to achieve many of the response goals and objectives. Waivers granted during any phase or any mission area may have an impact on economic recovery.⁸ As incidents stabilize, response efforts must be flexible to support the transition of resources from response to recovery.

Additional concept of support information is available in Annex D.

⁸ Any such waivers, exceptions, and exemptions must be consistent with laws that preserve human and civil rights and protect individuals with access and functional needs, such as individuals with disabilities.

Key Federal Decisions

The following list of key Federal decisions includes a broad range of major decision items during Response FIOP implementation:

- Heads of Federal departments and agencies with statutory authority for Response FIOP operations activate and deploy Federal resources or teams to the impacted area in anticipation of or in response to an incident and in coordination with local, state, tribal, territorial, and insular area governments and private entities.
- Pursuant to a Governor's or (Tribal) Chief Executive's request, the President of the United States determines the need to declare an emergency or major disaster under the Stafford Act.
- If a Stafford Act declaration is made, the President will appoint an FCO for each affected state, tribe, or territory to lead Federal support efforts. The FCO serves in the JFO and works with the State Coordinating Officer to meet local, state, tribal, territorial, and insular area assistance requirements and priorities.⁹
- When an incident is anticipated to exceed local, state, tribal, territorial, or insular area resources, the Governor of a state or Chief Executive of a federally-recognized Indian tribe may request Federal support through the Stafford Act or other authorities.
- For a declaration other than under the Stafford Act or for a request for Federal-to-Federal support, the President, in coordination with the appropriate heads of Federal departments and agencies, will determine the lead Federal agency and funding mechanism for disaster or emergency operations, as necessary.
- When activated, the NRCC and appropriate RRCCs, including FEMA personnel and all ESFs, will coordinate with the FEMA Region(s) to determine and provide needed resources and policy guidance to support the response.
- If a JFO is established, decisions on location, staffing, program priorities, and demobilization will be required.
- Decision to invoke expanded authorities, such as the Defense Production Act, policy changes, waivers, and regulatory relief.

⁹ The term State Coordinating Officer is used to describe the official appointed by the chief executive of a state, commonwealth, territory, federally-recognized tribe, or insular area to coordinate disaster assistance efforts with those of the Federal Government. Federally-recognized tribes having lands within an affected state can elect to work through the state's State Coordinating Officer or appoint a separate official to serve as the tribe's State Coordinating Officer (sometimes referred to as a Tribal Coordinating Officer) to work directly with Federal partners.

Critical Information Requirements

Critical information requirements (CIR) facilitate timely command, control, and coordination decisions during disaster operations. They provide insight into important details that response personnel need to know to effectively manage and execute their operations. CIRs are identified at the time of the incident based on the scope of the incident and the response. The Unified Coordination Group (UCG) will define what their CIRs are and those will be incorporated into the Information Collection Plan. CIRs are answered through the acquisition and assembly of one or more essential elements of information. More information regarding the essential elements of information that support CIRs is available in Appendix 2 to Annex B.

Senior-level decision makers responsible for leading response operations have CIRs related to the following categories:

- CIR #1—Facts, Estimates, and Projections about the Threat, Incident, or Event
- CIR #2—Readiness, Preparedness, and Mitigation
- CIR #3—Critical Authorities
- CIR #4—Lifesaving and Critical Resources/Shortages
- CIR #5—Damage and Restoration Estimates
- CIR #6—Status of Personnel and General Public
- CIR #7—Health and Safety Concerns and Estimates
- CIR #8—Response and Recovery Organization and Leadership
- CIR #9—Recovery and Impacts
- CIR #10—Public Information Guidance
- CIR #11—Weather and Seas.

Coordinating Instructions

The President leads the Federal Government response effort to ensure that the necessary resources are applied quickly and efficiently to large-scale and catastrophic incidents. All Federal departments and agencies must cooperate with one another, and with local, state, tribal, territorial, and insular area governments, community members, and the private sector to the maximum extent possible. Although Federal disaster assistance is often considered synonymous with Presidential declarations under the Stafford Act, Federal assistance can actually be provided to state and local jurisdictions, as well as to other Federal departments and agencies, through a number of different mechanisms and authorities.

For Stafford Act incidents, the Secretary of Homeland Security will coordinate Federal operations for domestic incident management, pursuant to Presidential directive. The FEMA Administrator's duties include assisting the President, through the Secretary, in carrying out the Stafford Act responsibilities and executing FEMA's emergency management authorities established in the Homeland Security Act, as amended, including primary responsibility for Federal emergency management response, recovery, and mitigation operations. The Administrator shall also provide coordination for all Federal interagency partners in support of response operations.

The DHS National Operations Center (NOC) is the principle operations center for DHS and provides situational awareness and a common operating picture for the entire Federal Government, and for local, state, and tribal governments as appropriate, in the event of a natural disaster, act of terrorism, or other manmade disaster, and ensures that critical terrorism and disaster-related information reaches government decision makers. The NRCC, an operational component of the NOC, provides operational support to field-deployed resources to ensure synchronized Federal operations and to resolve issues regarding national resources. The NRCC can be utilized during both Stafford Act and non-Stafford Act incidents. Prior to the designated FCO taking operational control, the NRCC will coordinate Federal support to local, state, tribal, territorial, or insular area jurisdictions. The FCO, in cooperation with the UCG, when established, directs the activities of the JFO.

The Federal Bureau of Investigation (FBI) manages prevention and counterterrorism operations through the Strategic Information and Operations Center (SIOC) and the 56 field offices' Joint Operations Centers (JOC). The SIOC is the FBI's worldwide operations and supports connectivity with other Federal operations centers, such as the DHS NOC, the DoD National Military Command Center (NMCC), and National Counterterrorism Center to rapidly gain and disseminate situational awareness and deploy resources as appropriate. This includes command and control of joint interagency investigative and domestic intelligence efforts led by the FBI On-scene Coordinators (OSC) through its JOCs. SIOC and JOCs ensure effective coordination and liaison with partner agencies, strategic communications, and coordination and information sharing with other leaders, as appropriate and in accordance with classification and legal requirements, to manage the threat. This includes command and control of joint interagency investigative and domestic intelligence efforts led by the FBI field offices. The FBI, through SIOC and its JOCs, ensures effective coordination and liaison with partner agencies, strategic communications, and coordination and information sharing with other mission area leaders, and in accordance with classification and legal requirements, to manage the threat.

Unified coordination is organized, staffed, and managed in a manner consistent with NIMS principles using the Incident Command System structure. The UCG comprises senior leaders representing Federal and state interests and, in certain circumstances, local jurisdictions, tribal governments, and the private sector. UCG members must have significant jurisdictional responsibility and authority.

For non-Stafford Act incidents, Federal response or assistance may be led or coordinated by various Federal departments and agencies consistent with their authorities. In non-Stafford Act incidents, Federal agencies that have responsibility for on-scene, tactical-level operations may establish incident command and area command structures or coordinate with local, state, tribal, territorial, or insular area agencies to form unified incident command and unified area command structures.

Federal Coordination with Local, State, Tribal, Territorial, and Insular Area Governments

If a state anticipates that its resources may be exceeded, the Governor can request support from other states through mutual aid and assistance agreements, such as EMAC. A state does not have to exhaust mutual aid agreements before requesting Federal support. State mutual aid and assistance agreements will be coordinated in accordance with existing policies and procedures.

The United States has a trust relationship with federally-recognized Indian tribes and recognizes their right to self-government. Tribal governments are responsible for coordinating resources to address actual or potential incidents. When tribal response resources are inadequate, Chief Executives of federally-recognized Indian tribes may seek assistance from states or the Federal Government. For certain types of Federal assistance, tribal governments work with the state in which they are located.

For other types of Federal support, as sovereign entities, tribal governments can elect to work directly with the Federal Government. The Stafford Act provides an option for the Chief Executive of a federally-recognized Indian tribe to make a direct request to the President for a major disaster or emergency declaration.

Successful response activities under the Stafford Act are contingent on the following actions of local, state, tribal, territorial, and insular area entities:

- Implement local, state, tribal, territorial, and insular area emergency operations plans
- Formally request Federal support and appoint a State Coordinating Officer¹⁰
- Provide initial damage assessments
- Coordinate state National Guard assets through the National Guard Joint Forces Headquarters-State and maintain communications between the National Guard at the state level and the Department of Defense through the National Guard Bureau
- Coordinate evacuation and sheltering of impacted communities
- Coordinate local, state, tribal, territorial, and insular area activities with those of Federal authorities
- Provide a method for local, state, tribal, territorial, and insular area deputation for Federal Law Enforcement
- Coordinate with the RRCC or JFO regarding procedures for establishing specific local, state, tribal, territorial, and insular area communications with Federal entities
- Ensure compliance with civil rights laws, including equal opportunity for individuals with disabilities (e.g., the use of physically accessible facilities; accessibility to all disaster-related programs, goods and services, and; accessible and actionable effective disaster communication—to include initial notifications and emergency messaging and others with access and functional needs, those from religious and racial and ethnically diverse backgrounds, and people with LEP
- Ensure compliance with environmental laws
- Approve all mission assignments for direct Federal assistance through the State Coordinating Officer with approving authority
- Coordinate local, state, tribal, territorial, and insular area activities with those of Federal authorities, including activation of continuity of operations plans, as necessary
- Engage in response and recovery planning and execution in coordination with other local, state, tribal, territorial, insular area, and Federal departments and agencies.

Federal Coordination with Nongovernmental Organizations

Under the provisions of the NRF, NGOs (e.g., community-based, faith-based, or national organizations) and Voluntary Organizations Active in Disaster (VOAD) are partners in the Federal response to an incident, major disaster, or emergency. For Stafford Act incidents, or when requested for Federal-to-Federal support, FEMA's Regional Voluntary Agency Liaisons (VAL) are responsible

¹⁰ The term State Coordinating Officer is used to describe the official appointed by the chief executive of a state, commonwealth, territory, federally-recognized tribe, or insular area to coordinate disaster assistance efforts with those of the Federal Government. Federally-recognized tribes having lands within an affected state can elect to work through the state's State Coordinating Officer or appoint a separate official to serve as the tribe's State Coordinating Officer (sometimes referred to as a Tribal Coordinating Officer) to work directly with Federal partners.

for NGO and VOAD coordination as well as donations coordination. The DHS Surge Capacity Force also includes trained VAL reservists to augment the permanent full-time VALs. For non-Stafford Act incidents, the lead department or agency will coordinate with NGOs in accordance with their procedures and protocols.

Response FIOP activities are contingent upon on the following actions of NGOs:

- Integrate with the efforts of voluntary organizations and NGOs that provide mass care services, housing repair and rebuild, financial assistance, case management, counseling services, and other vital support services to support response and to facilitate the recovery of disaster survivors, including individuals with access and functional needs, such as individuals with disabilities, those with racially and ethnically diverse backgrounds, and people with LEP.
- Train and manage volunteer and nongovernmental resources.

Federal Coordination with the Private Sector

Private sector organizations provide resources (through donations and/or with compensation) during an incident—including specialized teams, equipment, and advanced technologies—through local, public-private emergency plans, mutual aid agreements, or incident-specific requests from government and private sector volunteer initiatives. Response FIOP activities are contingent on the following actions of the private sector:

- In coordination with the DHS Office of Infrastructure Protection and relevant Sector-Specific Agencies (SSA), collect and disseminate status updates on critical infrastructure operations, impact and consequences, and analyses and recommendations for restoring critical infrastructure.
- In collaboration with the appropriate SSA, coordinate support through public-private partnerships, associations, and contractual agreements in responding to—and recovering from—a disaster or emergency.
- In coordination with the NRCC and National Business Emergency Operations Center, provide status updates on private sector operational abilities and other relevant information.

Administration, Funding, and Resources

Administration

Federal departments and agencies are responsible for managing their own financial activities during all operational phases and across all mission areas within their established processes and resources. The Financial Management Support Annex to the NRF provides basic financial management guidance for all Federal departments and agencies that provide support for incidents that require a coordinated Federal response.

During a catastrophic event, Federal departments and agencies may waive a number of regulatory requirements and/or extend the deadlines for required reports and applications to assist survivors and ease economic impact. All department-, agency-, or program-specific actions must be authorized by statute. For example, Section 301 of the Stafford Act permits agencies to modify or waive administrative conditions for Federal assistance in the wake of a major disaster upon the request of local or state authorities. In other cases, waivers may require action by the President or passage of new legislation. However, any such waivers, exceptions, and exemptions, when applicable, must be consistent with laws that preserve human and civil rights and protect individuals with access and functional needs, such as individuals with disabilities, those with racially and ethnically diverse backgrounds, and people with LEP.

Responsibility for management and oversight of all administrative and logistic requirements supporting operations rests with the following:

- FEMA is the Primary Agency for funding associated with Stafford Act incidents.
- FEMA's Office of the Chief Financial Officer is responsible for supporting disaster funding activities of domestic incident management and provides the core financial management functions in support of NRCC, RRCC, and JFO operations.
- The senior financial advisor of each multiagency coordination center (NRCC, RRCC, and JFO) is responsible for the financial management, monitoring, and tracking of all Federal costs relating to the incident.
- FEMA will initiate mission assignments to task and coordinate with other Federal departments and agencies to provide immediate, short-term emergency response support. Types of mission assignments include direct Federal assistance and Federal operations support. Although rarely exercised, it is important to note that FEMA retains the authority to mission assign agencies on a non-reimbursable basis.

During a catastrophic, non-Stafford Act incident, the designated lead agency may coordinate with FEMA as needed to ensure an efficient and effective Federal response, consistent with individual department or agency direct authorities and responsibilities.

This FIOP does not alter or affect the responsibilities of senior financial advisors in other Federal departments and agencies. When other Federal departments and agencies are operating programs under their own statutory authority and funding, there is an expectation that coordination among agencies with financial responsibilities will occur.

Funding

Federal funding to support coordinated Federal response operations will be consistent with applicable laws and authorities as detailed within the NRF Financial Management Support Annex. There are two types of funding for the coordination of Federal resources: Stafford Act and non-Stafford Act support.

The Stafford Act authorizes the President to provide financial and other disaster and emergency support to local, state, tribal, territorial, and insular area governments; NGOs; and individuals to support response, recovery, and mitigation efforts following a Presidential emergency or major disaster declarations.

The Stafford Act provides a legal framework for financial and material support. Use of disaster funds will be initiated by an emergency or major disaster declaration from the President. Before a major disaster or emergency declaration, the Stafford Act authorizes deployment and pre-positioning of personnel and equipment to reduce immediate threats to life, property, the public, employees, and responder health and safety and to improve the timeliness of its response in anticipation of a Presidential declaration. Their actions are limited to pre-deployment until a declaration is made. Prior to Stafford Act declarations, the FEMA Associate Administrator for Response and Recovery, the FEMA Chief Financial Officer, or their designees determine the required funding resources for the surge funding. FEMA is authorized to obligate surge funds to mobilize and deploy resources, as needed.

For Stafford Act incidents, and as designated, resources and services are administered through the NRCC at the national level, the RRCC at the regional level, and the JFO at the field level. Examples of expenses that may be allowed under surge funding include:

- NRCC and RRCC activation
- National-level and Regional-level Incident Management Team deployment
- Salary, overtime, and travel expenses for temporary personnel, experts, and consultants appointed under Section 306 of the Stafford Act
- Establishment of mobilization and staging areas
- Staging of rescue, hazard assessment, or medical services teams
- Staging of Inspection Services Contractor and deployment of Inspection Services Coordinator
- Certain reimbursements to Federal entities supporting FEMA mission assignments.

Funding guidance for non-Stafford Act incidents include the following:

- Federal departments and agencies with their own response authorities may also have associated appropriations to fund their response, as well as mechanisms to fund supporting Federal agencies. These activities may also continue in coordination with Stafford Act activities.
 - Agencies that may have lead response roles are expected to establish in advance the administrative and fiscal mechanisms to request, receive, and reimburse Federal-to-Federal assistance.
- A Federal entity with primary responsibility and statutory authority for handling an incident (i.e., the requesting agency) that needs support beyond its normal operations may request DHS coordination and facilitation through the NRF.
- Generally, the requesting agency provides funding for the incident consistent with provisions of the Economy Act, unless other statutory authorities exist. When a Federal department or agency requests Federal-to-Federal support, DHS may coordinate support using the appropriate multiagency coordination structures in the NRF and in accordance with NIMS.
- During non-Stafford Act incidents, a Federal department or agency requesting Federal-to-Federal support may request deployment of a FEMA comptroller, or they may use their own. The FEMA Administrator, Associate Administrator for Response and Recovery, the Regional Administrator, or the Regional Director may not approve reimbursement of costs incurred while performing work pursuant to disaster assistance authorities independent of the Stafford Act.

Personnel Resources

Federal departments and agencies are responsible for personnel augmentation to support operations under this FIOP. Each Federal department and agency possesses individual policies for personnel augmentation that is predicated on its authorities, various policies, memoranda of understanding, and mutual aid agreements. Federal departments and agencies must ensure that their employees who are engaged in incident response activities are able to perform in accordance with standard resource typing guidelines and operational requirements. In Stafford and non-Stafford Act incidents, each Federal department and agency will continue to maintain its roles and responsibilities in accordance with Federal laws and regulations.

Oversight, Plan Development, and Maintenance

The authorities that guide the structure, development, and implementation of the Response FIOP are statutes, executive orders, regulations, and Presidential directives. Congress has provided the broad statutory authority necessary for this FIOP, and the President has issued executive orders and Presidential directives to supply direction to departments and agencies of the Executive Branch.

The FEMA Administrator, in close coordination with the Secretary of Homeland Security, is the executive agent for Response FIOP management and maintenance.

This FIOP will be regularly reviewed to evaluate consistency with both new and existing policies; evolving threats and hazards; and experience gained from use. Interagency partners will be engaged in the review and maintenance process for this FIOP. This FIOP will be reviewed on a quadrennial basis. The review and maintenance process may include developing incident-specific and classified annexes, which include the delivery schedule for federally-coordinated assets and resources, as appropriate. The FIOP will be updated periodically, as required, to incorporate new executive guidance and statutory and procedural changes, as well as lessons learned from exercises and actual incidents. Significant updates to the Response FIOP will be vetted through a Federal senior-level interagency review process.

Authorities and References

The Response FIOP does not alter or impede local, state, tribal, territorial, insular area, or Federal entities from carrying out their specific authorities or performing their responsibilities under all applicable laws, executive orders, regulations, and directives. Nothing in this Response FIOP is intended to interfere with the authorities of any departments or agencies with regard to the direction, conduct, control, planning, organization, equipment, training, exercises, or other activities.

This FIOP is applicable to Federal departments and agencies providing support under the National Response Framework, for both events covered by the Stafford Act as well as certain non-Stafford Act support, and it is intended to be consistent with U.S. laws, policies, and other related requirements.

This document is not intended to, and does not create any right or benefit, substantive or procedural, enforceable at law or equity, against the United States, its departments, agencies, or other entities, its officers or employees, or any other person.

Federal departments require state and local jurisdictions receiving Federal funding to ensure people with disabilities are not discriminated against in federally-funded programs and activities as required by the Americans with Disabilities Act and the Rehabilitation Act.

Annex A: Emergency Support Function to Core Capability Matrix

Purpose

The purpose of the Emergency Support Function (ESF) to Core Capability Matrix is to illustrate the connection between the ESFs and the corresponding core capabilities they support. The matrix depicts each ESF in relation to the core capabilities it aligns to and the assigned responsibilities for each core capability. The ESF to Core Capability Matrix shows the ESF roles as they pertain to the National Response Framework (NRF). ESFs are the primary, but not exclusive, Federal coordinating mechanisms for building, sustaining, and delivering the Response core capabilities.

Situation

If local, state, tribal, territorial, and insular area resources become exhausted in the wake of a disaster or emergency, additional resources must be acquired to continue supporting response efforts. The ESFs provide the structure for coordinating Federal interagency collaboration and support during Federal response operations under a Stafford Act response or as requested under a Federal-to-Federal support. ESFs or other structures can be used for non-Stafford Act responses.

Mission

Federal interagency partners will work together within the ESF structure to meet the assigned responsibilities for each of the core capabilities their ESF aligns to when providing support to an impacted area and its population. Agencies who may have lead response roles are expected to establish in advance the administrative and fiscal mechanisms to request, receive, and reimburse Federal-to-Federal assistance.

ESF to Core Capability Matrix

The delivery of response is dependent upon complex systems. The ESF coordinating structure is integrated to deliver core capabilities. The effective delivery of a core capability by an ESF is often dependent upon actions by one or more core capabilities and/or by multiple ESFs.

The ESF construct is a model that many jurisdictions have adopted and tailored to their functions or stakeholders. Local, state, tribal, territorial, and insular area jurisdictions establish ESFs based on their specific requirements; however, there is no mandatory or direct linkage to the 14 Federal ESFs. Local, state, tribal, territorial, and insular area jurisdictions with ESFs are encouraged to engage non-traditional members of the whole community as part of their ESF processes. The following section provides a summary of each ESF's overall mission, as delineated by the NRF.¹¹

- **ESF #1—Transportation** provides support by assisting local, state, tribal, territorial, insular area, and Federal government entities, voluntary organizations, nongovernmental organizations (NGO), and the private sector in the management of transportation systems and infrastructure during domestic threats or in response to incidents.
- **ESF #2—Communications** supports the restoration of the communications infrastructure, coordinates communications support to response efforts, facilitates the delivery of information to

¹¹ ESF #14 has been removed in accordance with the National Disaster Recovery Framework.

emergency management decision makers, and assists in the stabilization and reestablishment of systems and applications.

- **ESF #3—Public Works and Engineering** coordinates and organizes the resources of the Federal Government to facilitate the delivery of multiple core capabilities.
- **ESF #4—Firefighting** provides Federal support for the detection and suppression of wildland, rural, and urban fires resulting from, or occurring coincidentally with, an all-hazards incident requiring a coordinated national response for assistance.
- **ESF #5—Information and Planning** collects, analyzes, processes, and disseminates information about a potential or actual incident and conducts planning activities to facilitate the overall activities in providing assistance to the whole community.
- **ESF #6—Mass Care, Emergency Assistance, Temporary Housing, and Human Services** coordinates and provides life-sustaining resources, essential services, and statutory programs when the needs of disaster survivors exceed local, state, tribal, territorial, and insular area government capabilities.
- **ESF #7—Logistics** integrates whole community logistics incident planning and support for timely and efficient delivery of supplies, equipment, services, and facilities. It also facilitates comprehensive logistics planning, technical assistance, training, education, exercise, incident response, and sustainment that leverage the capabilities and resources of Federal logistics partners, public and private stakeholders, and NGOs in support of both responders and disaster survivors.
- **ESF #8—Public Health and Medical Services** provides the mechanism for Federal assistance to supplement local, state, tribal, territorial, and insular area resources in response to a disaster, emergency, or incident that may lead to a public health, medical, behavioral, or human service emergency, including those that have international implications.
- **ESF #9—Search and Rescue** rapidly deploys Federal search and rescue (SAR) resources to provide lifesaving assistance to local, state, tribal, territorial, and insular area authorities, to include local SAR coordinators and mission coordinators, when there is an actual or anticipated request for Federal SAR assistance.
- **ESF #10—Oil and Hazardous Materials Response** provides Federal support in response to an actual or potential discharge and/or release of oil or hazardous materials when activated, including assessment, stabilization, and cleanup of environmental contamination resulting from oil or hazardous materials releases and management of wastes.
- **ESF #11—Agriculture and Natural Resources** organizes and coordinates Federal support for the protection of the Nation's agricultural, natural, and cultural resources during national emergencies. ESF #11 works during actual and potential incidents to provide supplemental nutrition assistance; respond to animal and agricultural health issues; provide technical expertise; coordinate and support animal and agricultural emergency management; ensure the safety and defense of the Nation's supply of meat, poultry, and processed egg products; and ensure the protection of natural and cultural resources and historic properties.
- **ESF #12—Energy** facilitates the restoration of damaged energy systems and components when activated by the Secretary of Homeland Security for incidents requiring a coordinated Federal response under the Stafford Act. The term "energy" includes producing, storing, refining, transporting, generating, transmitting, conserving, building, distributing, maintaining, and controlling energy and system components.

- **ESF #13—Public Safety and Security** provides Federal public safety and security assistance to local, state, tribal, territorial, and insular area law enforcement organizations overwhelmed by the results of an actual or anticipated natural disaster or an act of terrorism.
- **ESF #14** has been replaced by the National Disaster Recovery Framework.
- **ESF #15—External Affairs** provides accurate, coordinated, timely, and accessible information to affected audiences, including governments, media, the private sector, and the local populace, including children, individuals with disabilities, individuals with limited English proficiency (LEP), and others with access and functional needs.

Table A-1 illustrates the correlation between the ESFs and the assigned responsibilities for each core capability to which the ESFs are most closely aligned. The tasks listed in Table A-1 are based on the NRF ESFs' annexes.

The ESF to core capability table is not inclusive of all ESF and core capability relationships. For example, all ESFs support the delivery of Planning, Public Information and Warning, and Operational Coordination core capabilities.

Table A-1: ESF to Core Capability Alignment

ESF #1— Transportation	Responsibilities
Critical Transportation	<ul style="list-style-type: none"> ▪ Monitor and report the status of and damage to the transportation system and infrastructure. ▪ Identify temporary alternative transportation solutions to be implemented when primary systems or routes are unavailable or overwhelmed. ▪ Implement appropriate air traffic and airspace management measures. ▪ Coordinate regulatory waivers, exemptions, and permits. ▪ Provide longer-term coordination of the restoration and recovery of the affected transportation systems and infrastructure if required.

ESF #2— Communications	Responsibilities
Operational Communications	<ul style="list-style-type: none"> ▪ Ensure the capacity to communicate with both the emergency response community and the affected populations and establish interoperable voice and data communications between local, state, tribal, territorial, insular area, and Federal first responders. ▪ Reestablish a sufficient communications infrastructure within the affected areas to support ongoing life-sustaining activities, provide basic human needs, including the needs of individuals with access and functional needs, such as individuals with disabilities, and transition to recovery.

ESF #3—Public Works and Engineering	Responsibilities
Critical Transportation	<ul style="list-style-type: none"> ▪ Provide coordination, response, and technical assistance to affect the rapid recovery and reconstitution of critical waterways, channels, and ports to include vessel removal, significant marine debris removal, emergency dredging, and hydrographic surveys. ▪ Clear debris from roads to facilitate response and recovery operations. ▪ For incidents involving a blast or explosion associated with a chemical, biological, radiological, or nuclear (CBRN) threat agent resulting in a contaminated debris field, leads Federal actions to clear critical transportation routes of CBRN-contaminated debris, during the emergency phase, in consultation with ESF #10. ESF #10 assumes leadership for management of CBRN-contaminated debris after the emergency phase is over.¹¹
Environmental Response/Health and Safety	<ul style="list-style-type: none"> ▪ Collect, segregate, and transport to an appropriate staging or disposal site(s) hazardous materials that are incidental to building demolition debris, such as household hazardous waste and oil and gas from small motorized equipment; remove and dispose of chlorofluorocarbon from appliances; and remove, recycle, and dispose of electronic goods. ▪ For incidents involving a blast or explosion associated with a CBRN threat agent resulting in a contaminated debris field, ESF #3, in consultation with ESF #10 and the Federal Emergency Management Agency (FEMA): <ul style="list-style-type: none"> • Provide structural specialist expertise to support inspection of damaged CBRN-contaminated infrastructure and employ temporary stabilization measures or take other actions as necessary to address structural instability concerns. • Perform demolitions after a determination is made that a building is unstable and creates an imminent hazard to workers and/or after ESF #10, in conjunction with other appropriate local, state, tribal, territorial, insular area, and Federal authorities, make a determination that demolition is the desired cleanup approach.
Infrastructure Systems	<ul style="list-style-type: none"> ▪ Prepare for potential public works and engineering requirements. Activities include providing public information, contributing to shared situational awareness, establishing response teams, leveraging technological tools, training, and exercising with partners, establishing private sector contracts and agreements, and coordinating with volunteer organizations and other non-government partners. ▪ Conduct pre-incident and post-incident assessment of public works and infrastructure. ▪ Execute emergency contract support for lifesaving and life-sustaining services. ▪ Provide emergency repair of damaged public infrastructure and critical facilities. ▪ Support restoration of critical navigation, flood control, and other water infrastructure systems, including drinking water distribution and wastewater utilities. ▪ Provide assessment and emergency response for water, wastewater treatment facilities, levees, dams, buildings, bridges, and other infrastructure.

ESF #3—Public Works and Engineering	Responsibilities
	<ul style="list-style-type: none"> ▪ Provide temporary emergency power to critical facilities (e.g., hospitals, water treatment plants, shelters, fire/police stations). ▪ Construct temporary critical public facilities to temporarily replace destroyed or damaged facilities following a disaster (e.g., schools, local government offices, fire stations, police stations, and medical facilities) in coordination with ESF #6. ▪ Provide assistance in the monitoring and stabilization of damaged structures and the demolition of structures designated as immediate hazards to public health and safety. ▪ Provide structural specialist expertise to support inspection of mass care facilities and urban SAR operations in coordination with ESF #9. ▪ Manage, monitor, and/or provide technical advice in the clearance, removal, and disposal of debris from public property and the reestablishment of ground and water routes into impacted areas. For purposes of ESF #3, the term "debris" includes general construction debris that may contain inherent building material contaminants, such as asbestos or paint. Debris may include livestock or poultry carcasses and/or plant materials. ▪ Provide technical assistance to include engineering expertise, construction management, contracting, real estate services, and inspection of private/commercial structures. ▪ Provide engineering and construction expertise, response, supplies, and equipment to address flooding to include providing advance measures in anticipation of imminent severe flooding. ▪ Provide technical assistance in partnership with disability integration advisors regarding access and mitigation projects for people with disabilities according to requirements in the Architectural Barriers and Americans with Disabilities Acts.
Fatality Management Services	<ul style="list-style-type: none"> ▪ Manage debris to facilitate the fatality recovery efforts to include establishing a system for sorting debris and recovering human remains. ▪ Provide construction and engineering support for temporary morgues.
Mass Care Services	<ul style="list-style-type: none"> ▪ Provide construction, engineering, and project management expertise and support for temporary housing and sheltering ensuring accessibility for those with disabilities and others with access and functional needs to include management of temporary roofing support following hurricane disasters. ▪ Inspect mass care shelter sites to ensure suitability and accessibility of facilities to safely shelter survivors. ▪ Construct temporary shelter facilities, including accessible shelters, in the affected area, as required.
Logistics and Supply Chain Management	<ul style="list-style-type: none"> ▪ Execute emergency contract support for lifesaving and life-sustaining services

ESF #3—Public Works and Engineering	Responsibilities
Mass Search and Rescue Operations	<ul style="list-style-type: none"> Provide specially trained and equipped structural engineers to augment FEMA urban SAR task forces, Incident Support Teams, military technical rescue organizations, and general purpose troops during structural collapse incidents and other disaster response missions. Provide debris removal equipment and expertise to support SAR operations, as required.

ESF #4—Firefighting	Responsibilities
Critical Transportation	<ul style="list-style-type: none"> Provide engineering and contracting/procurement personnel and equipment to assist in emergency removal of debris, demolition, and repair of roads and bridges. Provide resources (personnel and equipment) necessary to clear fallen trees, brush and debris from state, county, and city roads to facilitate emergency access in disaster area.
Environmental Response/Health and Safety	<ul style="list-style-type: none"> Measure, evaluate, and monitor the impact of the emergency incident on National Forest System and Department of the Interior lands. Provide technical assistance and logistical support.
Fire Management and Suppression	<ul style="list-style-type: none"> Provide resources (personnel and equipment) necessary to support wildland, rural, and urban firefighting operations.
Infrastructure Systems	<ul style="list-style-type: none"> Provide engineering and contracting/procurement personnel and equipment to assist in emergency removal of debris, demolition, and temporary repair of essential public facilities, water supply, and sanitation. Provide expertise and personnel to assist with assessment of emergency services sector critical infrastructure.
Mass Care Services	<ul style="list-style-type: none"> Provide appropriate resources (e.g., cots, blankets, sleeping bags, personnel) for shelters.
Mass Search and Rescue Operations	<ul style="list-style-type: none"> Provide equipment and supplies from the National Interagency Cache System and use of the National Interagency Fire Center contract aircraft during incidents, based on standby agreements and contingency plans.
On-scene Security, Protection, and Law Enforcement	<ul style="list-style-type: none"> Provide trained public safety, law enforcement, investigations, and security resources if appropriate authority is provided.
Operational Communications	<ul style="list-style-type: none"> Provide radio communications systems to support firefighters, law enforcement officers, and incident response operations. Provide engineers, technicians, and liaison staff to assist the Department of Homeland Security (DHS), FEMA, and Office of Cybersecurity and communications Provide National Interagency Radio Support systems for use by damage reconnaissance teams and other applications. Provide appropriate communications personnel to accompany radio systems for user training and operator maintenance indoctrination.

ESF #4— Firefighting	Responsibilities
Public Health, Healthcare, and Emergency Medical Services	<ul style="list-style-type: none"> Provide appropriate personnel, equipment, and supplies, primarily for communications and aircraft for deployed Federal Public Health, Healthcare, and Emergency Medical Services teams.
Logistics and Supply Chain Management	<ul style="list-style-type: none"> Obtain an initial fire situation and damage assessment through incident awareness and assessment and other information gathering procedures; determines the appropriate management response to meet the request for assistance; and obtains and distributes, through appropriate channels, incident contact information to emergency responders mobilized through ESF #4. Analyze each request before committing people and other resources; ensures employees will be provided with appropriate vaccinations, credentials, and personal protective equipment (PPE) to operate in the all-hazards environment to which they are assigned; and ensures that all employees involved in all-hazards response will be supported and managed by an agency leader, agency liaison, or interagency Incident Management Team. Ensure that an all-hazards, incident-specific briefing and training are accomplished prior to task implementation. This preparation will usually occur prior to mobilization where incident description, mission requirements, and known hazards are addressed. Key protective equipment and associated needs for tasks that employees do not routinely encounter or perform will be identified. Provide command, control, and coordination resources, to include Incident Management Teams, area command teams, and multiagency coordination group support personnel, to local, state, tribal, territorial, insular area, and Federal agencies in support of emergency operations. Provide staff to support incident facilities, property, telecommunications, and transportation management. Provide direct liaison with local, state, tribal, territorial, and insular area emergency operations centers and fire chiefs in the designated area, as appropriate. Provide support to enhance the resilience of local, state, tribal, territorial, and insular area firefighting agencies.

ESF #5— Information and Planning	Responsibilities
Planning	<ul style="list-style-type: none"> During an actual or potential incident, coordinate and conduct planning activities.
Public Information and Warning	<ul style="list-style-type: none"> Provide information for the development of credible, culturally appropriate, and accessible messages to inform ongoing emergency services and the

ESF #5— Information and Planning	Responsibilities
	public about protective measures and other life-sustaining actions and facilitate the transition to recovery. ^{12, 13}
Situational Assessment	<ul style="list-style-type: none"> ▪ Maintain situational awareness of an incident. ▪ Provide an informational link to members of the whole community. ▪ Serve as the centralized conduit for situational reports, geospatial data, and other decision support tools. ▪ Provide decision-relevant information regarding the nature and extent of an incident, as well as cascading effects, in support of a potential or actual coordinated Federal response.

ESF #6—Mass Care, Emergency Assistance, Temporary Housing, and Human Services	Responsibilities
Critical Transportation	<ul style="list-style-type: none"> ▪ Support the collection, analysis, dissemination, and reporting of transportation infrastructure damage from ESF #6 service delivery sites. ▪ Identify requirements and request transportation resources for the delivery of life-sustaining supplies and services to the affected area(s). ▪ Identify critical transportation requirements for survivors with disabilities and others with access and functional needs. ▪ Support mobilization and implementation of mechanisms to track the movement of evacuees, resources, household pets, individuals with service and assistance animals, medical equipment and luggage. ▪ Provide mass care support to survivors at embarkation, debarkation and reception centers, evacuation transportation hubs, post-decontamination areas, etc., to make sure that basic needs are met, including hydration and feeding, tracking, and information. ▪ Provide resources, subject matter expertise, and coordination with other FEMA components and ESF #6 partners to support mass evacuation activities and ensure the safe evacuation of household pets and service and assistance animals. (Note: Evacuees who have chronic medical conditions may be evacuated with the general population. For evacuations of patients, refer to ESF #8.) ▪ Communicate plans, requirements, and strategies to core capability service providers. ▪ Acquire and manage resources, supplies, and services from core capability service providers via contracts, mission assignments, interagency agreements (IAA), and donations.

¹² Consistent with Appendix I to Annex C (Public Information and Warning), as well as the Mitigation and Recovery FIOPs, the development of “credible, culturally appropriate, and accessible messages” includes the development of linguistically appropriate messages.

¹³ The President of the United States has directed the Secretary of Homeland Security and the Attorney General to coordinate with each other to execute key responsibilities that provide public information and warning to the Nation regarding terrorist threats and attacks.

ESF #6—Mass Care, Emergency Assistance, Temporary Housing, and Human Services	Responsibilities
	<ul style="list-style-type: none"> Validate NGO requirements for transportation assistance and other critical limited resources (e.g., fuel) and coordinate with the Movement Coordination Center (MCC) to provide transportation of NGO resources to staging areas. Coordinate the deployment of NGOs in collaboration with the responding departments and agencies (e.g., the American Red Cross, Southern Baptists, The Salvation Army) mobile feeding units, and kitchens to staging areas.
Fatality Management Services	<ul style="list-style-type: none"> Provide mechanisms to support notification of family members to make appropriate arrangements for deceased relatives. Provide support and funding for crisis counseling services to the bereaved as well as for local, state, tribal, territorial, and insular area crisis counseling programs. Provide transportation and human services for survivors reuniting with deceased family members. Communicate plans, requirements, and strategies to core capability service providers. Acquire and manage resources, supplies, and services from core capability service providers via contracts, mission assignments, IAAs, and donations.
Mass Care Services	<ul style="list-style-type: none"> Support local, state, tribal, territorial, and insular area governments and NGOs in the coordination and provision of mass care, emergency assistance, temporary housing, and human services resources, programs, and services. Provide life-sustaining services to the affected population including sheltering, feeding, hydration, distribution of emergency supplies, support for household pets and service and assistance animals and reunification services. Support the establishment, management, and operation of congregate and non-congregate facilities. Coordinate the provision of transportation with local, state, tribal, territorial, and insular area governments and NGOs to facilitate the return of evacuees to their pre-disaster or alternate locations. Develop an initial temporary housing strategy to transition survivors from congregate to non-congregate alternatives and provide relocation assistance or interim housing solutions for households unable to return to their pre-disaster residence. Anticipate and identify current and future ESF #6 requirements in coordination with local, state, tribal, territorial, insular area, and Federal governments, NGOs, and private sector partners. Activate Federal ESF #6 data systems. Acquire, transport, and deliver ESF #6 resources and services to meet the needs of disaster survivors, including children, individuals with disabilities, and others with access and functional needs. Provide general care for separated/unaccompanied minors until they are placed in the care of appropriate authorities.

ESF #6—Mass Care, Emergency Assistance, Temporary Housing, and Human Services	Responsibilities
	<ul style="list-style-type: none"> ▪ Support nontraditional congregate facilities. ▪ Provide technical assistance for the development of local, state, tribal, territorial, insular area, and Federal governments, NGOs, and private sector operational plans for mass care, emergency assistance, temporary housing, and human services. <p>Mass Care</p> <ul style="list-style-type: none"> ▪ Sheltering: Provide life-sustaining services in congregate facilities that provide a safe, sanitary, and secure environment for individuals and households displaced by disasters, as well as support to survivors sheltering in place and in ESF #8 medical shelters. ▪ Feeding: Provide feeding services at fixed sites and distribution sites and through mobile feeding units. Feeding services may include hot or shelf-stable meals, infant formula, baby food, snacks, beverages, and food packages, as well as diverse dietary and culturally appropriate meals (e.g., low sodium, low fat, vegetarian/vegan, halal, kosher). ESF #6 works in concert with ESF #11 and local, state, and tribal governments; NGOs; and the private sector to acquire, prepare, cook and/or distribute food and food supplies. Additional support may include the provision of technical assistance for the development of state feeding plans. ▪ Distribution of Emergency Supplies: Acquire and deliver life-sustaining resources, hygiene items—including infant and toddler hygiene items—and cleanup items to meet the urgent needs of disaster survivors. Additional support includes transportation, warehousing, equipment, technical assistance, and other mission-critical services. ▪ Reunification Services: Provide facilitated assistance for children separated from their parents(s) /legal guardian(s), as well as adults with their families, due to disasters. Support reunification efforts at the local, state, tribal, territorial, and insular area levels with technical assistance. <p>Emergency Assistance</p> <ul style="list-style-type: none"> ▪ Coordinate resources and emergency assistance in support of local, state, tribal, territorial, and insular area governments, NGOs, and the private sector. ▪ Voluntary Agency Coordination: Facilitate the coordination of NGOs, places of worship, and the private sector to ensure that capabilities resources and services are integrated into local, state, tribal, territorial, and insular area response. ▪ Voluntary and Donation Management: Coordinate unaffiliated organizations, volunteers and unsolicited donated goods to support all ESFs. ▪ Essential Community Relief Services: Coordinate and deliver debris removal from disaster survivors residences; sandbagging; mud-out; tear-out; chainsaw work; warehouse management; transportation and distribution coordination; child care services; emotional and spiritual care and counseling; financial assistance; financial counseling; disaster-related case work and case management; and other essential services. ▪ Mass Evacuee Support: Support affected and host jurisdiction mass evacuation activities, including provision of mass care services and tracking

ESF #6—Mass Care, Emergency Assistance, Temporary Housing, and Human Services	Responsibilities
	<p>the movement of evacuees, their household pets, service animals, and medical equipment. If requested by a state, tribal, territorial, or insular area technical assistance and/or staff resources may be offered to support affected and host jurisdiction evacuee operations. Deploy resources to support affected and host jurisdiction evacuation operations to include mass evacuation tracking system kits and staff to provide technical assistance. In coordination with ESF #8, provides mass care services to medical patient evacuees. (Note: Evacuees who have chronic medical conditions may be evacuated with the general population. For evacuation of patients, refer to ESF #8.)</p> <ul style="list-style-type: none"> ▪ Support for People with Disabilities and Access and Functional Needs: Coordinate and provide equipment, supplies, and services required to assist children and adults with disabilities and others with access and functional needs to maintain their independence. ▪ Household Pets and Service and Assistance Animals: Coordinate and provide rescue, transportation, shelter, reunification, care, and essential needs of household pets and service and assistance animals during response operations. Service animals are not pets and may not be separated from the individual with a disability or other access and functional need; service animals should be permitted anywhere the public goes and are permitted to remain with their owners in shelters. ▪ Nonconventional/Transitional Sheltering: Provide resources and technical assistance in support of local, state, tribal, territorial, and insular area governments and NGOs, when traditional sheltering is not available or feasible or the impact of the disaster is of such magnitude that extended shelter operations are required. ▪ Temporary Roof Repair: Provide quick repairs to damaged roofs on private homes, which allows residents to return to and remain in their homes while making permanent repairs. <p>Temporary Accessible Housing</p> <ul style="list-style-type: none"> ▪ Repair Program: Provide financial assistance to homeowners or landlords for the repair of their primary residence, utilities, and residential infrastructure. ▪ Replacement Program: Provide financial assistance to homeowners to assist with the replacement of their destroyed primary residence. ▪ Housing Resource Databases: Identify housing resources from the private sector and other Federal agencies available to disaster survivors, including physically accessible housing options. ▪ Rental Assistance: Provide financial assistance to eligible disaster survivors for the rental of a housing resource. ▪ Transportation to Other Locations: Assist individuals and families relocating outside of the disaster area to locations where short- or long-term housing resources are available. Transportation services may also include returning survivors to their pre-disaster location. ▪ Direct Financial Housing: Make payments directly to landlords for a rental resource on behalf of disaster survivors.

ESF #6—Mass Care, Emergency Assistance, Temporary Housing, and Human Services	Responsibilities
	<ul style="list-style-type: none"> ▪ Hotel/Motel Program: Provide temporary accommodations for eligible displaced survivors unable to return to their pre-disaster primary residence. ▪ Direct Housing Operations: Provide temporary housing units to survivors when other housing resources are not available. Units provided are appropriate to the needs of the community and include units accessible to those with disabilities and others with access and functional needs. ▪ Mortgage Relief: Issue moratoriums on foreclosures of federally-insured loans. Loan servicers provide special forbearances, loan modifications, refinancing, and waivers of late charges. <p>Human Services</p> <ul style="list-style-type: none"> ▪ Human Services: Provide assistance to address the non-housing needs of individuals and families. Disability integration advisors (DIA) should be used to assist with Disaster Case Management, Unmet Needs, Access and Functional Need and other human service cases to help access disability specific community services and supports. ▪ Crisis Counseling: Provide crisis counseling, mental health, and other similar immediate, short-term psychological assistance to disaster survivors. ▪ Disaster Case Management: Assist eligible survivors with developing and carrying out a disaster recovery plan. Streamlines assistance, prevents duplication of benefits, and provides an efficient referral system. ▪ Legal Services: Provide low-income survivors with free legal advice. ▪ Unmet Needs: Help disaster survivors with medical, dental, funeral, personal property, transportation, moving and storage, and other expenses. ▪ Supplemental Nutrition Assistance: Provide eligible households with supplemental nutrition assistance through established programs when income is lost due to a declared disaster. ▪ Tax Relief: Local, state, tribal, territorial, insular area, and Federal governments provide reimbursement or tax relief to survivors with substantial verified disaster-caused losses. ▪ Unemployment Assistance: Provide survivors who have lost their jobs due to a disaster with unemployment benefits.
Logistics and Supply Chain Management	<ul style="list-style-type: none"> ▪ Assess the need for and coordinate the provision of life-sustaining ESF #6 services, resources, and supplies from government agencies, NGOs, and the private sector. ▪ Gather, assess, prioritize, coordinate, and communicate resource requirements. ▪ Provide subject matter expertise to identify resource requirements to meet the life-sustaining needs of disaster survivors and their household pets and service and assistance animals. ▪ Gather, assess, prioritize, and communicate relevant information. ▪ Communicate plans, requirements, and strategies to core capability providers. ▪ Acquire and manage resources, supplies, and services from core capability providers via contracts, mission assignments, IAAs, and donations.

ESF #6—Mass Care, Emergency Assistance, Temporary Housing, and Human Services	Responsibilities
Public Health, Healthcare, and Emergency Medical Services	<ul style="list-style-type: none"> ▪ Identify and communicate requirements for lifesaving and life-sustaining needs of disaster survivors and household pets and service and assistance animals. ▪ Coordinate with core capability service providers to ensure that ESF #6 service delivery locations are appropriately provisioned and operated in a safe, sanitary, secure, and timely manner. ▪ Communicate plans, requirements, and strategies to core capability service providers. ▪ Acquire and manage resources, supplies, and services from core capability service providers via contracts, mission assignments, IAAs, and donations.

ESF #7—Logistics	Responsibilities
Critical Transportation	<ul style="list-style-type: none"> ▪ Management of transportation that includes equipment and procedures for moving material from storage facilities and vendors to incident casualties, particularly with emphasis on the surge and sustainment portions of response. ▪ Transportation management also includes providing services to include fulfilling requests from other Federal organizations.
Mass Care Services	<ul style="list-style-type: none"> ▪ Acquire and manage resources, supplies, and services from core capability providers via contracts, mission assignments, IAAs, and donations. ▪ Support the prioritization, coordination, and communication of mass care resources requirements. ▪ Communicate plan, requirements, and strategies to core capability providers. ▪ Support requirements for physically accessible sheltering, feeding, and related activities to support survivors of disasters, including individuals with access and functional needs, such as individuals with disabilities.
Operational Communications	<ul style="list-style-type: none"> ▪ Coordinate the procurement of communications equipment and services.
Logistics and Supply Chain Management	<ul style="list-style-type: none"> ▪ Coordination of resource support for survivors. ▪ Resource management that includes determining requirements, sourcing, ordering and replenishment, storage, and issuing of supplies and equipment. ▪ Facilities management that includes locating, selection, and acquisition of incident facilities, such as Joint Field Offices (JFO), as well as storage and distribution facilities. ▪ Establishment and operation of logistics support facilities to include the management of services related to lodging and feeding of incident support personnel. ▪ Management of electronic data interchanges to provide end-to-end visibility of response resources.

ESF #7—Logistics	Responsibilities
	<ul style="list-style-type: none"> Plan for transitional support to recovery operations concurrent with response operations. Provide logistical support to first response and other fire response (if required) services.

ESF #8—Public Health and Medical Services	Responsibilities
Critical Transportation	<p>Patient Movement:</p> <ul style="list-style-type: none"> Transports seriously ill, or injured patients and medical needs populations from point of injury or casualty collection points in the impacted area to designated reception facilities. Coordinates the Federal response in support of emergency triage and pre-hospital treatment, patient tracking, distribution, and patient return. This effort is coordinated with Federal and local, state, tribal, territorial, and insular area emergency medical services officials. Provides resources to assist in the movement of at-risk/medically fragile populations to shelter areas and with the sheltering of the special medical needs population that exceeds the state capacity. Provide private vendor ambulance support to assist in the movement of patients through the National Ambulance Contract. Provides support for evacuating seriously ill, or injured patients through the National Disaster Medical System (NDMS), an interagency partnership between the Department of Health and Human Services (HHS), the Department of Homeland Security (DHS), the Department of Defense (DoD), and the Department of Veterans Affairs (VA). Support may include providing accessible transportation assets, operating and staffing NDMS patient collection points (e.g., aerial ports of embarkation (APOEs)), and/or establishing Federal Coordinating Centers (FCCs) that conduct patient reception at ports of debarkation (e.g., aerial ports of debarkation (APOD)). Federal support may also include processing and tracking patient movement from collection points to their final destination reception facilities through final disposition. (Note: DoD is responsible for tracking patients transported on DoD assets to the receiving FCC. Provides patient tracking from point of entry to final disposition. Provides capability to identify bed capacity for the purposes of bed allocation to NDMS designated Definitive Care Facility.
Environmental Response/Health and Safety	<ul style="list-style-type: none"> Supports the Worker Safety and Health Support Annex, provides technical assistance, and conducts exposure assessments and risk management to control hazards for response workers and the public.
Fatality Management Services	<ul style="list-style-type: none"> Assists jurisdictional medico-legal authorities and law enforcement agencies in the tracking and documenting of human remains and associated personal effects; reducing the hazard presented by chemically, biologically, or radiologically contaminated human remains (when indicated and possible); establishing temporary morgue facilities; determining the cause and manner of death; collecting antemortem data in a compassionate and culturally competent fashion from authorized individuals; performing postmortem data collection and documentation; identifying human remains using scientific means (e.g., dental, pathology, anthropology, fingerprints, and, as indicated, DNA samples); preparing, processing, and returning human

ESF #8—Public Health and Medical Services	Responsibilities
	<p>remains and personal effects to the authorized person(s) when possible; and providing technical assistance and consultation on fatality management and mortuary affair services.</p> <ul style="list-style-type: none"> ▪ May provide behavioral health support to families of victims during the victim identification mortuary process. ▪ May provide for temporary interment when permanent disposition options are not readily available.
Mass Care Services	<ul style="list-style-type: none"> ▪ Provides technical expertise and guidance on the public health issues of the medical needs population. ▪ Assists with applications for Federal benefits sponsored by HHS and ensures continuity of assistance services in affected states and in states hosting relocated populations. ▪ Provides support for the provision of case management and advocacy services. ▪ Provides support for human and/or veterinary mass care sheltering as resources are available.
Logistics and Supply Chain Management	<p>Health, Medical, and Veterinary Equipment and Supplies</p> <ul style="list-style-type: none"> ▪ Arranges for the procurement and transportation of equipment, supplies, diagnostic supplies, radiation detecting devices, and medical countermeasures, including assets from the Strategic National Stockpile (SNS), in support of immediate public health, medical, and veterinary response operations. <p>Blood and Tissues</p> <ul style="list-style-type: none"> ▪ Monitors and ensures the safety, availability, and logistical requirements of blood, blood products, and tissue. This includes the ability of the existing supply chain resources to meet the manufacturing, testing, storage, and distribution of these products.
Public Health, Healthcare, and Emergency Medical Services	<p>Health Surveillance</p> <ul style="list-style-type: none"> ▪ Uses existing all-hazards surveillance systems to monitor the health of the general and medical needs population, as well as that of response workers, and identify emerging trends related to the disaster; carries out field studies and investigations; monitors injury and disease patterns and potential disease outbreaks, behavioral health concerns, blood, blood products, and tissue supply levels; and provides technical assistance and consultations on disease and injury prevention and precautions. Provides support to laboratory diagnostics and, through the Laboratory Response Network, provides a mechanism for laboratories to access additional resources when the capabilities or capacity have been exceeded. <p>Medical Surge</p> <ul style="list-style-type: none"> ▪ Provides support for triage, patient treatment, and patient movement. ▪ Provides clinical public health and medical care specialists from the NDMS, U.S. Public Health Service, VA, and DoD to fill local, state, tribal, territorial, and insular area health professional needs. ▪ Coordinates with states to integrate Federal assets with civilian volunteers deployed from local, state, tribal, territorial, insular area, and other authorities, including those deployed through the Emergency System for

ESF #8—Public Health and Medical Services	Responsibilities
	<p>Advance Registration of Volunteer Health Professionals and the Medical Reserve Corps.</p> <p>Patient Care</p> <ul style="list-style-type: none"> Provides resources to support pre-hospital triage and treatment, inpatient hospital care, outpatient services, behavioral healthcare, medical-needs sheltering, pharmacy services, and dental care to victims with acute injury/illnesses or those who suffer from chronic illnesses/conditions. Assists with isolation and quarantine measures and with medical countermeasure and vaccine point of distribution operations (e.g., mass prophylaxis). Ensures appropriate patient confidentiality is maintained, including Health Insurance Portability and Accountability Act privacy and security standards, where applicable. <p>Assessment of Public Health/Medical Needs</p> <ul style="list-style-type: none"> Supports national or regional teams to assess public health and medical needs. This function includes the assessment of the healthcare system/facility infrastructure. <p>Food Safety, Security, and Defense</p> <ul style="list-style-type: none"> In coordination with ESF #11, may task HHS components and request assistance from other ESF #8 partner organizations to ensure the safety, security, and defense of federally-regulated foods. <p>Agriculture Safety and Security</p> <ul style="list-style-type: none"> In coordination with ESF #11, ESF #8 may task components to ensure the health, safety, and security of livestock and food-producing animals, animal feed, and the safety of the manufacture and distribution of foods, drugs, and therapeutics given to animals used for human food production. ESF #8 may also provide veterinary assistance to ESF #11 for the care of research animals. <p>Safety and Security of Drugs, Biologics, and Medical Devices</p> <ul style="list-style-type: none"> During response, provides advice to private industry regarding the safety and efficacy of drugs, biologics (including blood, blood products, tissues, and vaccines), medical devices (including radiation emitting and screening devices), and other products that may have been compromised during an incident and are HHS-regulated products. <p>All-Hazard Public Health and Medical Consultation, Technical Assistance, and Support</p> <ul style="list-style-type: none"> Assesses public health, medical, and veterinary medical effects resulting from all hazards. Such tasks may include assessing exposures on the general population, including children and individuals with disabilities and others with access and functional needs; conducting field investigations, including collection and analysis of relevant samples; providing advice on protective actions related to direct human and animal exposures and on indirect exposure through contaminated food, drugs, water supply, and other media; and providing technical assistance and consultation on medical treatment, screening, and decontamination of injured or contaminated individuals. Provides for disaster-related health and behavioral health needs through direct services and/or referrals, as necessary.

ESF #8—Public Health and Medical Services	Responsibilities
	<p>Vector Control</p> <ul style="list-style-type: none"> Assesses the threat of vector-borne diseases. Conducts field investigations, including the collection and laboratory analysis of relevant samples; provides vector control equipment and supplies. Provides technical assistance and consultation on medical treatment of victims of vector-borne diseases. <p>Public Health Aspects of Potable Water/Wastewater and Solid Waste Disposal</p> <ul style="list-style-type: none"> Assists in assessing potable water, wastewater, solid waste disposal, and other environmental health issues related to public health in establishments holding, preparing, and/or serving food, drugs, or medical devices at retail and medical facilities, as well as examining and responding to public health effects from contaminated water; conducting field investigations, including collection and laboratory analysis of relevant samples; providing equipment and supplies as needed; and providing technical assistance and consultation. <p>Veterinary Medical Support</p> <ul style="list-style-type: none"> Provides veterinary medical support to treat ill or injured animals, and veterinary public health support through HHS National Veterinary Response Team and veterinary medical officers of the Commissioned Corps of the U.S. Public Health Service. ESF #8 is the primary Federal resource for treatment of ill or injured service animals, pets, working animals, laboratory animals, and livestock post-disaster. Under HHS statutory authority, conducts animal response to zoonotic diseases in order to protect human health. Supports the United States Department of Agriculture (USDA) and its authority to manage a foreign animal disease response with the resources listed above for livestock or poultry diseases exotic to the United States that are either not or only mildly zoonotic.
Public Information and Warning	<p>Public Health and Medical Information:</p> <ul style="list-style-type: none"> Coordinates the Federal public health and medical messaging with jurisdictional officials. Continuously acquires and assesses information on the incident. Sources of information may include state incident response authorities; officials of the responsible jurisdiction in charge of the disaster scene; and ESF #8 support departments, agencies, and organizations. Provides public health, behavioral health, disease, and injury prevention information that can be transmitted to members of the general public and responders who are located in or near affected areas in multiple and accessible formats and languages in a culturally and linguistically appropriate manner that is understandable to all appropriate populations, such as individuals with access and functional needs, those with limited English proficiency, pediatric populations, populations with disabilities and others with access and functional needs, the aging, and those with temporary or chronic medical conditions. Supports a Joint Information Center in the release of general medical and public health response information to the public.

ESF #9—Search and Rescue	Responsibilities
Mass Search and Rescue Operations	<ul style="list-style-type: none"> ▪ Activate ESF #9 when an incident is anticipated or occurs that may result in a request for a unified SAR response to an affected area. ▪ Federal SAR responders assist and support local, state, tribal, territorial, and insular area SAR capabilities in incidents requiring a coordinated Federal response. No provision of this annex is to be construed as an obstruction to prompt and effective action by any agency to assist persons in distress. ▪ The ESF #9 response is scalable to meet the specific needs of each incident, based upon the nature and magnitude of the event, the suddenness of onset, and the capability of local SAR resources. Response resources are drawn from ESF #9 Primary and Support Agencies. ▪ ESF #9 SAR operations are conducted following the NRF and National SAR Plan. ▪ U.S. National SAR Supplement, Catastrophic Incident SAR Addendum, and other addenda that define SAR responsibilities and provide guidance to the Federal departments and agencies with civil SAR mandates. <ul style="list-style-type: none"> • National SAR Plan: The National SAR Plan is the policy guidance of the signatory Federal departments and agencies for coordinating SAR services to meet domestic needs and international commitments. • U.S. National SAR Supplement: This document provides implementation guidance on the International Aeronautical and Maritime SAR Manual and the National SAR Plan. • Catastrophic Incident SAR Addendum to the U.S. National SAR Supplement: This document provides a description of the unified SAR response to catastrophic incidents, guides Federal authorities involved in the response, and informs local, state, tribal, territorial, and insular area authorities on what to expect of/from Federal SAR responders. ▪ ESF #9 may operate under the Economy Act when there is no Stafford Act declaration. ▪ For every incident, the ESF #9 coordinator assesses the specific SAR requirements and assigns one of the four Primary Agencies as the Overall Primary Agency for SAR for that particular incident. Designation is dependent upon incident circumstances and the type of response required. ▪ When assigned as the Overall Primary Agency for a particular incident, that organization conducts the following actions: <ul style="list-style-type: none"> • Coordinate planning and operations between Primary and Support Agencies. • Coordinate resolution of conflicting operational demands for SAR response resources. • Provide representation to appropriate incident facilities (e.g., National Response Coordination Center, Regional Response Coordination Center, JFO, emergency operations centers). ▪ All ESF #9 Primary Agencies provide support to the designated Overall Primary Agency as required.

ESF #10—Oil and Hazardous Materials Response	Responsibilities
Critical Transportation	<ul style="list-style-type: none"> For incidents where transportation infrastructure or routes are contaminated by oil or hazardous materials, help to identify safe evacuation and ingress routes; assess the nature and extent of contamination; and clean up and/or decontaminate infrastructure and routes. For incidents involving a blast or explosion associated with a CBRN threat agent resulting in a contaminated debris field, ESF #3—Public Works and Engineering leads Federal actions to clear critical transportation routes of CBRN-contaminated debris during the emergency phase, in consultation with ESF #10. ESF #10 assumes leadership for management of CBRN contaminated debris after the emergency phase is over.
Environmental Response/Health and Safety	<ul style="list-style-type: none"> Conduct actions to detect and assess the nature and extent of oil and hazardous materials releases. Take action as appropriate to stabilize the release and prevent the spread of contamination; conduct environmental cleanup actions and decontaminate buildings and structures; and manage wastes. Follow applicable health and safety requirements for ESF #10 responders and coordinate, as needed, with Worker Health and Safety Support Annex response activities.
Infrastructure Systems	<ul style="list-style-type: none"> For incidents where infrastructure is contaminated by oil or hazardous materials, assess the nature and extent of contamination and clean up and/or decontaminate infrastructure.
Public Information and Warning	<ul style="list-style-type: none"> Provide the technical expertise to support the preparation of Federal public information related to the environmental response in support of ESF #15. It is recognized, however, that, in some cases, it may be necessary for responding Environmental Protection Agency and U.S. Coast Guard On-scene Coordinators to communicate with the media/public on tactical operations and matters affecting public health and safety directly from the scene, particularly during the early stages of the emergency response.

ESF #11—Agriculture and Natural Resources	Responsibilities
Critical Transportation	<p>Natural and Cultural Resources and Historic Properties</p> <ul style="list-style-type: none"> In support of response operations for damaged bridges, roads, roads, culverts, borrow pits, and ditches: <ul style="list-style-type: none"> Conduct surveys and evaluations for archaeological resources, historic structures, cultural landscapes, biological resources, wetlands, and critical habitat. Assess, evaluate, and make recommendations for both natural and cultural resources to mitigate damage from incidents and reduce impacts to these resources resulting from repair, road surveying, and construction. Provide monitors to protect sensitive resources during response operations. Assist with environmental compliance: <ul style="list-style-type: none"> Section 106 of the National Historic Preservation Act.

ESF #11— Agriculture and Natural Resources	Responsibilities
	<ul style="list-style-type: none"> • Threatened and Endangered Species Consultation. • Migratory Bird Treaty Act, Magnuson-Stevens Act, Coastal Management Zone, etc. <ul style="list-style-type: none"> ▪ Provide liaisons to coordinate with tribal governments to ensure tribal/reservation roads, bridges, and other critical transportation resources are intact and safe for travel. Ensure that tribal projects meet all compliance regulations for both natural and cultural resources. ▪ Supplemental Nutrition Assistance. ▪ Provide USDA Foods to state agencies for distribution to shelters and other mass feeding sites and, in certain limited situations, household distribution. ▪ Provide infant formula and baby food to supplement FEMA's infant/toddler kits. ▪ Evacuation of animals, including household pets, service and assistance animals. <ul style="list-style-type: none"> • Facilitate whole community multiagency coordination with NGOs (e.g., the National Animal Rescue and sheltering Coalition and the National Alliance of State Animal and Agriculture Emergency Programs) to support animal evacuations.
Environmental Response/Health and Safety	<p>Natural and Cultural Resources and Historic Properties Resource Protection</p> <ul style="list-style-type: none"> ▪ Coordinate with ESF #10 on the removal of debris affecting natural and cultural resources and historic properties (NCH) when that debris is contaminated by oil or hazardous materials. ▪ Through the U.S. Geological Survey and the National Wildlife Health Center, serve as the Federal lead on zoonotic and wildlife diseases. ▪ Assist with environmental compliance: <ul style="list-style-type: none"> • Section 106 of the National Historic Preservation Act. • Threatened and Endangered Species Consultation. • Migratory Species Act, Magnuson-Stevens Act, Coastal Management Zone, etc. ▪ Perform assessments and surveys to assist with planning and operational decisions (e.g., inform temporary housing and sheltering plans). ▪ Monitor response activities. ▪ Monitor environmental conditions and conduct sampling. ▪ Provide technical advice on mitigation impacts of identified contaminants and recommend cleanup actions to minimize damage to sensitive resources from response activities. ▪ Comment on debris removal plans to minimize the impact on sensitive environmental resources. ▪ Provide technical assistance, guidance, best management practices, and consultation on a wide range of response actions including guidance on threatened and endangered species.
Infrastructure Systems	<p>Natural and Cultural Resources and Historic Properties Resources Protection</p> <ul style="list-style-type: none"> ▪ Assist with environmental compliance: <ul style="list-style-type: none"> • Section 106 of the National Historic Preservation Act.

ESF #11— Agriculture and Natural Resources	Responsibilities
	<ul style="list-style-type: none"> • Threatened and Endangered Species Consultation. • Migratory Species Act, Magnuson-Stevens Act, Coastal Management Zone, etc. ▪ Perform assessments and surveys to assist with planning and operational decisions. ▪ Monitor response operations to protect sensitive resources. ▪ Provide technical advice on mitigating impacts of operations and recommend response actions to minimize damage to natural and cultural resources. ▪ Provide DHS/FEMA and other agencies with technical guidance and best management practices. ▪ Coordinate with ESF #3 on the removal of debris (when classified as debris) affecting NCH. <p>Animals (including Household Pets and Service and Assistance Animals):</p> <ul style="list-style-type: none"> ▪ Support ESF #6 to coordinate an integrated Federal response to meet the mass care and emergency assistance needs of owners and their animals, including household pets and service and assistance animals. ▪ Facilitate whole community multiagency coordination with NGO agencies for animal response activities (including household pets and service and assistance animals). ▪ Provide technical assistance and subject matter expertise to local, state, tribal, territorial, insular area, and Federal governments and NGOs, regarding household pet and service and assistance animal issues. ▪ Coordinate need assessments for animal response, including household pets, and service and assistance animals and provide technical support for evacuee support evacuation and emergency sheltering.
Mass Care Services	<p>Nutrition Assistance</p> <ul style="list-style-type: none"> ▪ Determine nutrition assistance needs. ▪ Identify and obtain appropriate food supplies. ▪ Arrange transportation for food supplies. ▪ Authorize the Disaster Supplemental Nutrition Assistance Program (D-foods). <p>Natural and Cultural Resources and Historic Properties Resources Protection</p> <ul style="list-style-type: none"> ▪ Assist in data collection and information analysis to inform decisions on placement of temporary housing sites and staging areas and mitigate possible damage to natural and cultural resources. ▪ Conduct surveys of wetlands, archeological sites, and biological assessments to assist with evaluating sites to inform planning and operational decisions. <p>Animals (including Household Pets and Service and Assistance Animals) Mass Care and Emergency Assistance</p> <ul style="list-style-type: none"> ▪ Support ESF #6 to coordinate an integrated Federal response to meet the mass care and emergency assistance needs of animals, including household pets, service and assistance animals and their owners. ▪ Facilitate whole community multiagency coordination with NGO agencies for animal response activities.

ESF #11— Agriculture and Natural Resources	Responsibilities
	<ul style="list-style-type: none"> Provide technical assistance and subject matter expertise to local, state, tribal, territorial, insular area, and Federal governments and NGOs, regarding animal response issues. Coordinate need assessments for animals, including household pets, and animal response needs and provide technical support for evacuation and emergency sheltering.
Logistics and Supply Chain Management	<p>Nutrition Assistance</p> <ul style="list-style-type: none"> Assist states and local organizations in supporting disaster feeding efforts with the following: <ul style="list-style-type: none"> Provide USDA Foods to state agencies for distribution to shelter and other mass feeding sites. Provide USDA Foods to state agencies for distribution directly to households in need in certain limited situations. Authorize state agencies to issue Disaster Supplemental Nutrition Assistance Program (D-SNAP) benefits. <p>Natural and Cultural Resources and Historic Properties Resources Protection</p> <ul style="list-style-type: none"> Coordinate NCH identification and vulnerability assessments. Facilitate development and application of measures and strategies to protect, preserve, conserve, rehabilitate, stabilize, and guide the recovery of NCH. Assist in emergency compliance with relevant Federal environmental laws, such as emergency permits/consultation for natural resources use or consumption, during emergency response activities. Manage, monitor, and assist in or conduct response actions to minimize damage to natural and cultural resources and historic properties. Share best practices and assist in development of programmatic approaches to address and expedite NCH-related requirements for all Federal actions/initiatives take to respond to an incident requiring a coordinated Federal response. Provide assistance and expertise in addressing impacts to properties of traditional religious and cultural importance. Provide up-to-date geospatial data related to impacted NCH and develop and provide standard operating procedures for collecting NCH digital data, conducting geographic information system analyses, and disseminating geospatial products, such as maps, related to NCH. Provide technical guidance to preserve, conserve, and stabilize records, archives, and collections and utilize existing records management expertise to assist in the response of local and state records in all formats. <p>Animal Response</p> <ul style="list-style-type: none"> Facilitate whole community multiagency coordination with NGOs to support movement of animal response resources, supplies and equipment.
Public Health, Healthcare, and Emergency Medical Services	<p>Animal and Agricultural Health</p> <ul style="list-style-type: none"> Respond to animal and agricultural health emergencies under USDA statutory authority. Coordinate with ESF #8 on management of zoonotic disease.

ESF #11— Agriculture and Natural Resources	Responsibilities
	<ul style="list-style-type: none"> ▪ Coordinate with ESF #8 to ensure that animal/veterinary health issues (including both disease management and medical management) are supported. ▪ Collaborate with HHS and the Department of the Interior to deliver effective "one health" response that integrates human, animal, and environmental health.

ESF #12—Energy	Responsibilities
Infrastructure Systems	<ul style="list-style-type: none"> ▪ Assist energy asset owners and operators and local, state, tribal, territorial, and insular area authorities with requests for emergency response actions as required to meet the Nation's energy demands. ▪ Identify supporting resources needed to stabilize and reestablish energy systems. ▪ Assist Federal departments and agencies by locating fuel for transportation, communications, emergency operations, and national defense, pursuant to the authorities available to the agency providing assistance. ▪ Through the Department of Energy (DOE), the Energy Sector-Specific Agency (SSA) addresses significant disruptions in energy supplies for any reason, whether caused by physical disruption of energy transmission and distribution systems, unexpected operational failure of such systems, acts of terrorism or sabotage, or unusual economic, international, or political events. ▪ In coordination with the DOE, the Energy SSA addresses the impact that damage to an energy system in one geographic region may have on energy supplies, systems, and components in other regions relying on the same system. ▪ In consultation with energy asset owners, operators, and the DOE, the Energy SSA, advises local, state, tribal, territorial, and insular area authorities on priorities for energy system reestablishment, assistance, and supply during response and operations.
Logistics and Supply Chain Management	<ul style="list-style-type: none"> ▪ Provide subject matter expertise to the private sector as requested to assist in stabilization and reestablishment efforts. ▪ Through coordination with DOE (refer to Primary Agency Functions) serves as a Federal point of contact with the energy industry for information sharing and requests for assistance from private and public-sector owners and operators.
Situational Assessment	<ul style="list-style-type: none"> ▪ Work with the FEMA regions, local, state, tribal, territorial, and insular area authorities, and the private sector to develop procedures and products that improve situational awareness to effectively respond to a disruption of the energy sector. ▪ Coordinate preliminary damage assessments in the energy sector. ▪ Identify requirements to repair energy systems and monitors repair work. ▪ Through coordination with DOE, ESF #12: <ul style="list-style-type: none"> • Serve as a source for reporting of critical energy infrastructure damage and operating status for the energy systems within an impacted area, as well as on regional and national energy systems.

ESF #12—Energy	Responsibilities
	<ul style="list-style-type: none"> Assess the energy impacts of the incident and provides analysis of the extent and duration of energy shortfalls. Analyze and model the potential impacts to the electric power, oil, natural gas, and coal infrastructures and determines the effect a disruption has on other critical infrastructure.

ESF #13—Public Safety and Security	Responsibilities
On-scene Security, Protection, and Law Enforcement	<ul style="list-style-type: none"> Provide general and specialized Federal law enforcement resources to support local, state, tribal, territorial, insular area, and Federal law enforcement departments and agencies overwhelmed by disasters or acts of terrorism. These ESF #13 Federal Law Enforcement Officers (FLEO) can perform a wide array of missions as defined through the FEMA mission assignment process. Protect critical infrastructure during prevention activities or disaster response, when requested. Protect emergency responders. Determine the role, if any, of private sector/NGOs in the overall public safety and security response. Work with state law enforcement and government officials to determine the methodology by which FLEOs may be granted state law enforcement authority during ESF #13 responses, if statutory authority exists for such. Manage the development of pre-scripted mission assignments to address known and anticipated disaster response public safety and security shortfalls. Give priority to life-safety missions first, followed by missions that address security and the protection of infrastructure/property. Consider the availability of safety and security resources within the requesting Federal department or agency when providing ESF #13 support to other Federal ESFs.

ESF #15—External Affairs	Responsibilities
Public Information and Warning	<p>External Affairs Overarching Objectives</p> <ul style="list-style-type: none"> Provide accurate, coordinated, timely, and actionable information to affected audiences during incidents requiring a coordinated Federal response. Provide communications support and advice to the leaders during an incident. Conduct strategic communications planning to effectively support specific response priorities and address hot issues. Oversee media relations. <p>Congressional Affairs</p> <ul style="list-style-type: none"> Prepare an initial congressional affairs action plan to support the Unified Coordination Group (UCG) staff with incident specific guidance and objectives.

ESF #15—External Affairs	Responsibilities
	<ul style="list-style-type: none"> ▪ Establish contact with congressional offices representing affected areas to provide information on the incident. ▪ Coordinate with congressional affairs staff from all Federal agencies involved in the response to ensure consistency and transparency in communicating with members of Congress. ▪ Organize congressional briefings. ▪ Arrange for incident site visits for members of Congress and their staffs. ▪ Respond to congressional inquiries. ▪ Assist in the development of written materials for presentations and making congressional notifications. <p>Intergovernmental Affairs—Response Operations</p> <ul style="list-style-type: none"> ▪ Promote Federal interaction and implements information sharing with local, state, tribal, territorial, and insular area governments. ▪ Inform local, state, tribal, territorial, and insular area elected and appointed officials on response efforts, and recovery programs. ▪ Disseminate information with the assistance of state municipal leagues, county associations, and tribal governments. ▪ Promote Federal interaction with tribal governments on all aspects of incident response operations. ▪ Ensure inclusion of tribes in all aspects of incidents requiring a coordinated Federal response that affect tribes and incident response operations. <p>Joint Information Center</p> <ul style="list-style-type: none"> ▪ Coordinate messages with local, state, tribal, territorial, insular area, and Federal governments from the National JIC. ▪ Provide incident-related information through the media and other sources in accessible formats and multiple languages to individuals, households, businesses, and industries directly or indirectly affected by the incident, including those with disabilities and others with access and functional needs. ▪ Monitor news coverage to ensure that accurate information is disseminated. ▪ Disseminate incident information through digital media (official Web sites, social networking platforms) to ensure wide delivery of lifesaving information. ▪ Maximize the use of video and digital imagery to communicate during incidents. ▪ Handle appropriate special projects, such as news conferences and press operations, for incident area tours by government officials and other dignitaries. ▪ Provide basic services, such as communications and supplies, to assist the news media in disseminating information to the public. ▪ Oversee media relations. ▪ Types of JICs: <ul style="list-style-type: none"> • JIC: Serve as a central point of coordination for incident information, public affairs activities, and media access to information regarding the latest developments.

ESF #15—External Affairs	Responsibilities
	<ul style="list-style-type: none"> • Incident JIC: The physical location where all public affairs professionals involved in the response work together to provide critical emergency information, media response, and public affairs functions. • Virtual JIC: Links all participants through technological means (secure or non-secure) when geographical restrictions, incident management requirements, and other limitations preclude physical attendance by public affairs leadership at a central location. • Satellite JIC: A forward-deployed component of an incident JIC. • Plans and Products <ul style="list-style-type: none"> ▪ Educate the public in the aftermath of an incident requiring a coordinated Federal response through news advisories, press releases, prepared materials, fliers, and talking points. ▪ Develop new media products for dissemination, including blog posts, messages for social media, update messages, video, and digital imagery. <p>Private Sector</p> <ul style="list-style-type: none"> ▪ Manage two-way information flow with private sector partners. Provide information on business recovery services, gather situational awareness on private sector impacts, status and issues. ▪ Conduct outreach and education. ▪ Promote operational integration with the impacted private sector entity to support local economic response and recovery. ▪ Support shared situational awareness by engaging the private sector in information-sharing efforts.

Annex B: Planning

Purpose

The purpose of this annex is to describe the delivery of the Planning core capability within the Response mission area.

The Planning core capability conducts a systematic process, engaging the whole community, as appropriate, in the development of executable strategic, operational, and/or community-based approaches to meet defined objectives.

The Planning (P) critical task is as follows:

- **P-Critical Task-1:** Develop operational plans at the Federal level and in the states and territories that adequately identify critical objectives based on the planning requirements, provide a complete and integrated picture of the sequence and scope of the tasks to achieve the objectives, and are implementable within the time frame contemplated in the plan using available resources.

Planning enables operational coordination and facilitates effective decision making. The Planning core capability establishes the strategy to achieve the mission or goal, outlines operational and support activities to address the situation and risks, and identifies resource requirements prior to and following an incident. This annex consists of three appendices: Risk Management, Situational Assessment, and Geospatial. As discussed in each of the respective appendices, these provide critical aspects to inform the planning process both pre- and post-incident and are organized together to further integrate them.

Situation

Plans are the operational core of preparedness and provide mechanisms for setting priorities, integrating multiple jurisdictions and organizations and functions, establishing collaborative relationships, and ensuring that communications and other systems effectively support the full spectrum of emergency management and incident response activities. Planning is the process by which all members of the whole community organize the delivery of core capabilities in preparation for and during all incident management operations to include catastrophic incidents. Operational demands during a catastrophic incident will be larger than any one organization, or echelon, can manage independently. Significant coordination and understanding of risks, priorities, shared resources, and planning fundamentals are necessary to effectively deliver Response core capabilities.

Pre-incident planning shortfalls include outdated, unaligned, or non-integrated plans at all levels impeding the ability of the whole community to respond to a catastrophic incident with associated cascading incidents. Planning efforts throughout the whole community must maintain an integrated approach through both the vertical (local, state, tribal, territorial, insular area, and Federal) and horizontal (various departments and agencies) synchronization of plans. Synchronization of planning across the whole community mitigates one of the largest risks to planning.

Assumptions

General assumptions for the Response Federal Interagency Operational Plan (FIOP) have been identified in the base plan.

Mission

Federal departments and agencies will develop response plans for coordinated Federal support to local, state, tribal, territorial, and insular area governments, as necessary. These plans identify critical objectives and provide an integrated picture of the sequence and scope of the tasks required to achieve objectives and deliver the core capabilities in a timely manner.

Execution

Concept of Operations

Planning is a collaborative process used to facilitate the delivery of core capabilities across all mission areas and all levels of government. The planning process includes the gathering and assessment of information; determination of risks that would impact the effective delivery of tasks; identification of strategies to manage those risks and close gaps; and the evaluation and maintenance of the plan.

Deliberate plans are developed at all levels vertically from the local level to the Federal level and all levels horizontally through departments and agencies having responsibility for supporting the delivery of core capabilities for a response to any incident. Deliberate planning is accomplished under non-emergency conditions, developing general procedures for responding to, recovering from, and mitigating against future threats, hazards, or scenarios. Examples of deliberate planning include, but are not limited to: All-hazard Response Plans; Incident-specific Plans; Federal Interagency Operational Plans; Regional Interagency Operational Plans, and Department and Agency Operational Plans (OPLAN). Once an incident occurs, deliberate plans are adapted or adjusted to the circumstances of the incident to enable response actions to take place in a coordinated manner. These plans are aligned and integrated both pre- and post-incident, identifying interdependencies, synchronizing interactions, and coordinating critical points amongst vertical and horizontal partners. Figure B-1 illustrates the horizontal and vertical linkages of planning seen in the National Preparedness Goal. It is also important to note that continuity plans and procedures are important for ensuring an organization can continue to perform essential functions. It is important to note that continuity planning and operations are critical to the continuation of the essential services and functions that the whole community relies upon as it responds to disasters.



Figure B-1: Planning Integration

To foster unity of effort for the delivery of the Response core capabilities, integration of planning will occur (if any one or more of the following apply) when an organization:

- Is supported by or supports another organization
- Is affected by or affects the command, control, or communication with another organization
- Provides resources to or uses resources from another organization
- Shares authorities with another organization or has authorities that may overlap, conflict with, or complement the authorities or responsibilities of another organization
- Relies on another organization for information or must provide information to another organization.

If planning integration is required, vertical and horizontal integration will be comprised of three factors: risk; command, control, and communications; and resource-sharing. Core capabilities within one mission area may be linked to the core capabilities within other mission areas through these integrating factors. Across the five mission areas, risk is integrated through the outcomes identified in the Strategic National Risk Assessment (SNRA), which identifies risks and impacts that would have the greatest effect on the security and stability of our Nation. As structures and coordination mechanisms vary based on incidents and authorities, a thorough evaluation of the command, control, and communications integration factor will be critical for the delivery of the core capabilities.

Recognizing resource sharing across the whole community and incorporating it into planning will strengthen and integrate the plans, ensuring resources are not over-assigned or underutilized.

Performance measures are quantifiable and appropriate. They provide a clear set of end state expectations and improve both the plans and the planning process. Throughout the Response FIOP, interagency performance metrics are identified for each phase of the core capabilities as the end states. These end states provide a common baseline for the interagency community to develop their own internal corresponding metrics. Departments and agencies should develop their plans in alignment with these end states. By basing their planning efforts on these end state performance metrics, a closer and more effective integration of the overall planning effort will be achieved.

This Response FIOP incorporates the identification, assessment, and management of risk in Appendix 1 to Annex B. The risk management appendix identifies how risk is connected to resource sharing across the mission areas. Information regarding how command, control, and communications are integrated is contained in Annex C, Annex D, and Annex E. Resource sharing is integrated throughout this FIOP, but is primarily discussed in Annex D.

Integration of Advances in Science and Technology Capabilities to Enhance Planning

Science and technology-based capabilities are continually evolving, enhancing the ability of emergency managers to reduce the latency in delivery of response core capabilities and enhancing the accuracy of decision making in a rapidly evolving and information-limited incident. Planning integration of evolving science and technology capabilities across the Emergency Support Functions (ESF) requires the engagement of Federal scientific coordination groups with Federal officials in charge of developing and maintaining Federal interagency plans and ensuring regional operations plans incorporate state-of-the-art scientific understanding and technological capabilities.

The Response FIOP identifies activities and organizational linkages to ensure a unity of effort to deliver Response mission area core capabilities. Federal interagency science and technology coordination entities provide a forum to facilitate integration of science and technology developments in Response mission area core capabilities. Regular assessment of the research-to-operations pipeline to support response mission area capabilities is necessary. These assessments should include identification of science and technology gaps and investments needed to close those gaps in order to improve the delivery of response mission area core capabilities.

Phase 1

Federal interagency plans are based either on statutory or regulatory authorities, and specific contingencies and/or types of incidents. The deliberate planning process outlines the roles, responsibilities, authorities, and resources of departments and agencies prior to the occurrence of an incident. Deliberate plans describe the concept of operations, objectives, performance measures, assumptions, considerations, tasks, and resource requirements to effectively deliver Response core capabilities. Identifying and assessing risk drives planning in Phase 1a. Risk varies across the Nation, and various systems are used to identify and assess risks. At the local, regional, and state levels, the Threat and Hazard Identification and Risk Assessment (THIRA) Guide, found in Comprehensive Preparedness Guide 201, provides a step-by-step process for each jurisdiction to identify and assess the risks of concern. At the national level, the SNRA analyzes the greatest risks to the Nation. There are also specialized risk assessments conducted for specific situations or events such as a National Special Security Event (NSSE). THIRAs, the SNRA, and specialized risk assessments, taken together, provide an integrated picture of the risks facing our Nation. Risks that are identified within the Response mission area are initially coordinated through the SNRA and THIRA as a common means for understanding of the risk and to inform resource allocation and planning across the mission areas. As plans are developed, other mission areas are included in discussions and planning activities to ensure a common understanding, approach, and to coordinate key assumptions and activities.

Deliberate plans should include whole community input in addressing support to local, state, tribal, territorial, and insular area partners in addressing the needs of everyone who may be impacted during a disaster—based upon knowledge of the communities’ permanent and transient population, including individuals with disabilities, people with limited English proficiency (LEP), people from diverse racial and ethnic groups, and others with access and functional needs, taking into account children and older adults, and the needs of service and assistance animals and pets. The importance of in-depth planning for persons with disabilities and others with access and functional needs cannot be overstated. Planning for these individuals often requires that unique and/or non-traditional solutions be incorporated, for example, evacuation of non-ambulatory persons may require accessible transportation and that must be accounted for in the planning process.

In addition to the mission area FIOPs, there are several other Federal-level plans that are created as a part of the deliberate planning process under the National Planning System:

- Regional operational plans support the Response FIOP by describing the concept of operations for integrating and synchronizing existing national-level Federal capabilities to support the local, state, tribal, territorial, and insular area governments within a specific geographic area.
- Department and agency operational plans describe how the organization will, in response to an incident, support the delivery of Response core capabilities. Similarly, all public communications and warnings must ensure appropriate auxiliary aids and services necessary to achieve effective communication with individuals with disabilities (e.g., interpreters, translators, captioning, accessible multimedia and Web sites) and appropriate language services to individuals with LEP, such as interpreters and translated materials.

Federal departments and agencies and ESFs will identify, share, and scope planning objectives and accompanying tasks in support of pre-incident and response planning efforts using both traditional and atypical methods. Phase 1 (pre-incident) response plans will be integrated and aligned vertically and horizontally. Emphasis is placed on engaging whole community partners in plan development, training and exercising as a means to strengthen comprehensive emergency planning capacity. ESFs, departments, and agencies conduct deliberate planning relative to their own designated responsibilities and develop appropriate supporting documents, such as standard operating procedures, playbooks, and conduct training and exercises during normal operations. All plans are exercised, evaluated, and improved as a continual ongoing process during normal operations. Lessons learned from exercises and after action reports (AAR) are incorporated into plans and the improved plans are used in subsequent responses.

Phase 2

Planning during a response rests on the foundation of deliberate plans that are adapted to fit the circumstances of an actual incident. Situational analysis guides the development of Incident Action Plans (IAP). Information obtained and incorporated into plans will also include risks that are identified through other mission area coordinating structures. Actions determined from the development of an IAP are reassessed and revised as subsequent situational awareness, resources, and other factors dictate.

During a Stafford or non-Stafford Act incident, departments and agencies with primary response responsibilities perform planning to provide an effective and efficient resolution to the incident.

During a response to a Stafford Act incident, each department and agency implements its functional plans to accomplish assigned activities and the delivery of associated core capabilities. All functional plans are scalable and adaptive. Attention to changes in situational assessments will dictate adjustments to current IAP activities. Plans are aligned during response operations at multiagency

coordination and command structures (e.g., Incident Command Post, Joint Field Office [JFO], Federal Department and Agency Emergency Operations Centers [EOC], National Response Coordination Center [NRCC]) levels through individual plan dissemination, comparison, and analysis (in-person and through coordination calls).

Acknowledging that recovery starts with the incident, in conjunction with response operations, and in anticipation of the eventual complete transition into recovery, planning includes preparation to achieve a seamless transition.

As an integral part of the planning process, problems encountered during the response that relate to implementation of the plans used are recorded and employed in both revision to the plans and for possible mitigation efforts to reduce future impact of a similar incident.

Phase 3a

Following the transition to recovery, reviews of the effectiveness of the response and suggestions for future improvements will be derived from “hot washes” and formal assessments of actions taken during the response and an AAR will be generated. The AAR will provide assessments needed to improve plans, information for improvement of training and data for mitigation efforts.

Implementation of plans for the transition to recovery will take place at the onset of this phase. Lessons learned in the provision of science and technology capabilities will be reflected in an interagency assessment or AAR that evaluates the overall performance of science and technology assets in supporting the delivery of response mission area core capabilities. Recommendations from the post-event science and technology assessment will inform future Federal research and development needs and identify future coordination requirements.

Coordinating Structure

All ESFs support the delivery of the Planning core capability. Each department or agency conducts deliberate planning for their areas of responsibility, integrates those plans with the overall Response FIOP, and participates in the delivery of all applicable core capabilities.

Each department or agency involved in response adapts their plans to the circumstances presented for both a Stafford and non-Stafford Act incident. There are several Federal-level (Stafford Act) plans that are created as part of the adaptive planning process and are described below.

When an incident occurs, planning will occur at the incident level, regional level, and national level, as appropriate. The types of planning occurring at each level are reflected in Table B-1.

Table B-1: Types of Adaptive Plans

Incident Level Planning	Regional Planning	National Planning
<ul style="list-style-type: none"> Incident Action Plan Advanced Operational Plan Incident Strategic Plan Functional Plan 	<ul style="list-style-type: none"> Regional Support Plan Functional Plan 	<ul style="list-style-type: none"> National Support Plan National Advanced Operational Plan Functional Plan

National Planning

All Federal departments and agencies undertake planning actions to support national preparedness. The Federal Emergency Management Agency (FEMA) works with its national-level partner ESFs and Support Agencies to develop risk-specific, coordinated interagency operational plans. Within this

construct, each partner agency prepares its own plans for how it will execute its portion of the coordinated response mission. ESFs with multiple Primary Agencies designate an ESF coordinator for the purposes of pre-incident planning and coordination of Primary and Support Agency efforts throughout the incident.

The NRCC Staff conduct planning to support regional and incident operations. National Planning includes the development of the following:

- A National Support Plan, as needed, assists regional support and incident response efforts. The National Support Plan is used to describe the mobilization of Federal resources to support the incident from the national-level on a day-to-day basis.
- A National Advanced Operational Plan (AOP) identifies and quantifies the mobilization of Federal resources to support the incident from the national-level on a day-to-day basis.
- Functional Plans, as required, address particular requirements or emergency program policy issues associated with one or more incidents. These plans outline specific national functional or programmatic efforts to support the incident.

Regional Planning

FEMA regional offices work with their states and regional interagency partners to develop coordinated interagency operational plans focused on specific threats and/or risks within the region. Within this construct, each partner agency prepares its own plans for how it executes its portion of the coordinated response mission. Regional plans typically are operational supplements to national plans and provide region-specific procedures and guidance. The goal is to identify, prior to an incident, the specific resources and tasks for which each entity is responsible to ensure a smooth response effort.

Planning for an NSSE requires the coordination and cooperation of the U.S. Secret Service (primary responsibility for security design, planning, and implementation), the FBI (primary responsibility for intelligence, counterterrorism, hostage rescue, tactical response, bomb management, render safe operations, and Federal criminal investigations), and FEMA (primary responsibility for emergency response and recovery planning and coordination). These agencies cooperatively develop and execute NSSE plans and prepare appropriate operational supplements.

Regional Response Coordination Center (RRCC) staff conducts planning at the regional level to provide regional resources and guidance to support incident operations. Regional planning may include development of the following:

- The Regional Support Plan is a forward-looking document identifying the resources and tasks taken by RRCC-activated functions to support incident objectives and priorities. Possibly covering multiple operational periods, this process focuses on and documents regional support efforts. The Regional Support Plan may be used in place of an IAP until the Federal Coordinating Officer has taken control. The resulting plan provides information to incident personnel and headquarters officials on regional efforts to support the incident. The Regional Support Plan can identify resources available and assist in the development of AOPs by identifying gaps in critical assets.
- Functional plans, as required, address particular requirements or emergent program policy issues associated with one or more incidents. These plans outline specific national functional or programmatic efforts to support the incident.

Incident-level Planning

Comprehensive Preparedness Guide 101 provides for the development of local, state, tribal, territorial, and insular area emergency operations plans. Local, state, tribal, territorial, and insular area plans provide a framework for understanding vulnerability to and risk of hazards, and identifying the pre-disaster and post-disaster mitigation measures to reduce the risk from identified hazards. Private sector plans are developed by privately owned companies and corporations. These plans are used for response operations at the local, state, tribal, territorial, and insular area level and, in some cases, nationally and internationally as well.

Incident-level planning at the Federal level refers to the level in which Federal incident planning is accomplished, in partnership with States and in support of local offices. For Stafford Act incidents, the Unified Coordination Group (UCG) develops the incident objectives and is responsible for the following planning activities:

- The IAP is a written document, and contains general objectives reflecting the strategy for managing an incident, which may include the identification of operational resources and assignments, attachments that provide direction, and important information for incident management. The IAP is the focal point for incident-level planning. It builds on local, state, tribal, territorial, insular area, and Federal deliberate plans, tailoring to the priorities and objectives established by the UCG. The IAP governs evolving operational periods throughout the life of the Federal response.
- The AOP is used to estimate requirements and anticipate activities over multiple operational periods, typically three to seven days beyond the current operational period. The AOP is based on and supports incident objectives and priorities, and complements incident action planning. It includes short-term milestones that facilitate timely ordering to ensure resources are available when needed. The AOP provides a mechanism to synchronize planning efforts beyond the current operational period, capture procedures derived from deliberate plans, and identify future resource requirements that may take longer to provide or that will not be needed until later in the response.
- Incident Strategic Plans are used to estimate requirements and anticipate activities over the life cycle of the entire incident. It provides overall direction for incident management and specifies milestones to be accomplished over time. It outlines the goals, operational priorities, and desired end states that enable the UCG to determine the group's position within the life cycle of the incident and when goals have been achieved.
- Functional Plans are developed as required to address specific functional and operational issues. The plans are not confined to the current operational period, but may address a single operational period or multiple operational periods. A functional plan typically includes identification of the operational resources required and proposed actions; it may also include timelines and milestones.

ESFs that provide support to the delivery of the Planning core capability are included in the following section.

Planning Tasks

Mission Objectives (MO)

- P-MO-1: Use an integrated planning process to develop a coordinated operational plan across local, state, tribal, territorial, insular area, and Federal jurisdictions. (Supports P-Critical Task-1)

- P-MO-2: Based on the operational plan, identify critical objectives across the mission areas and operational phases. (Supports P-Critical Task-1)
- P-MO-3: Identify required resources to achieve the critical objectives in the most effective and cost-effective manner. (Supports P-Critical Task-1)
- P-MO-4: Identify, sequence, and scope tasks to achieve measurable objective targets. (Supports P-Critical Task-1)

Phase 1a—Normal Operations

End State: Plans have been exercised and tested across local, state, tribal, territorial, insular area, and Federal entities. Private sector and nongovernmental organizations (NGO) have participated in exercises, as appropriate. (Supports P-MO-1)

- Tasks by Phase, by ESF
 - All
 - ♦ Conduct whole community response and recovery planning that includes risk reduction and mitigation elements.
 - ♦ Ensure mitigation and infrastructure protection assessments (e.g., THIRA, SNRA, Hazards United States (Hazes), Dam Safety, Hurricane Evacuation, Sea, Lake, and Overland Surge from Hurricanes modeling, critical infrastructure vulnerabilities, National Infrastructure Simulation and Analysis Center reports, U.S. Geological Survey [USGS] soil modeling) are incorporated within the information and analysis phase and reflected in the plan's threat assessment to the degree appropriate to the plan.
 - ♦ Develop plans that will incorporate private sector capabilities in support of response MOs.
 - ♦ Synchronize information with partner departments and agencies.
 - ♦ Update pre-deployment checklists and personnel rosters.
 - ♦ Review pre-scripted mission assignments (PSMA), existing interagency agreements (IAA), contract vehicles, and memoranda of agreement, and understanding available for rapid implementation and execution.
 - ♦ Facilitate information flow in the pre-incident phase and coordinate intergovernmental planning, training, and exercising in order to prepare assets for deployment.
 - ♦ Develop, implement, exercise, and maintain plans to ensure continuity of operations.
 - ESF #1
 - ♦ Assist in the development of evacuation plans for major metropolitan areas, in conjunction with the local jurisdictions.
 - ♦ Collaborate with state and Federal partners to develop contingency air mission and airspace management plans.
 - ESF #2
 - ♦ Develop, review, and distribute Federal disaster emergency communications planning information to support agencies.
 - ESF #3

- ♦ Coordinate the planning and execution of evacuations across the navigable waters of the United States and major metropolitan areas, including evacuation plans for individuals with access and functional needs, such as individuals with disabilities.
- ESF #4
 - ♦ Plan for the mobilization of firefighting resources from all levels of government in support of local, state, tribal, territorial, and insular area agencies involved in wildland, rural, and urban firefighting operations during incidents under the Stafford Act.
- ESF #5
 - ♦ Assess military installations for suitability to support Federal and Department of Defense (DoD) response activities and be prepared to designate both Incident Support Bases (ISB) and Base Support Installations.
 - ♦ Provide accurate and timely information related to an incident.
- ESF #6
 - ♦ Plan for the provision of resources to meet the requirements of ESF #6 components mass care, emergency assistance, temporary housing and human services.
 - ♦ Provide technical assistance for the development of local, state, tribal, territorial, insular area, and Federal governments, NGO, and private sector operational plans for mass care, emergency assistance, temporary housing, and human services.
- ESF #7
 - ♦ Review and prepare additional pre-disaster agreements and contracts to ensure the greatest capability to provide sufficient resources to survivors and responders during an incident.
 - ♦ Develop plan and capacity to provide equipment, supplies, and services required to assist children and adults with disabilities and others with access and functional needs to maintain their independence.
- ESF #8
 - ♦ Analyze and plan for the provision of health and medical services to provide support to survivors including public health, behavioral health, and medical assistance to individuals with access and functional needs, such as individuals with disabilities; populations with LEP; and racially and ethnically diverse communities.
 - ♦ Coordinate the development of Federal fatality management policies, doctrines, and plans as it relates to victim identification and behavioral health assistance for the grieving.
 - ♦ Provide technical assistance to local, state, tribal, territorial, and insular area entities as they develop fatality management plans.
- ESF #9
 - ♦ Plan, develop, and perform search and rescue (SAR) training and exercise programs, which will enable the deployment of assets to the field in less than 16 hours.

- ESF #10
 - ♦ Maintain the National Oil and Hazardous Substances Pollution Contingency Plan, a regulation that provides an organizational structure and procedures for preparing for and responding to actual or potential discharges of oil and releases of hazardous substances, pollutants, and contaminants. The Environmental Protection Agency (EPA) maintains the plan in consultation with USCG and 13 other Federal agency partners.
 - ♦ Develop regional and area contingency plans.
 - ♦ Issue regulations through EPA and USCG and provide oversight under Federal laws that establish requirements for local government and facility/vessel oil/hazardous materials contingency planning.
- ESF #11
 - ♦ Coordinate Federal support for the protection of the Nation's agricultural, natural and cultural resources.
 - ♦ ESF #11 may facilitate planning to provide supplemental nutritional assistance; respond to animal and agricultural health issues; provide technical expertise; coordinate and support animal and agricultural emergency management; ensure the safety and defense of the Nation's supply of meat, poultry, and processed egg products; and ensure the protection of natural and cultural resources and historic properties during an actual or potential incident.
- ESF #12
 - ♦ Coordinate with private sector energy owners and operators, local, regional, state, tribal, territorial, and insular area governments, associations and industry groups; conduct energy emergency response and preparedness exercises; engage in mitigation efforts; and support development and refinement of energy emergency plans.
 - ♦ Conduct preparedness training and complete individual readiness requirements; response material levels are monitored and stocked, as appropriate.
- ESF #13
 - ♦ Plan for the use of safety and security personnel from all levels of government in support of safety and security efforts relative to the well-being of survivors and responders during an incident.
- ESF #15
 - ♦ Coordinate external affairs planning with local, state, tribal, territorial, insular area, and Federal governments and public partners to establish outreach plans for the whole community, including those from religious and racial and ethnically diverse backgrounds, people with LEP, or individuals with access and functional needs, such as individuals with disabilities.
 - ♦ Identify potential needs and shortfalls, and alternate means of communications with possible loss of communications infrastructure.

Phase 1b—Elevated Threat

End State: Plans have been updated and revised based on the current situation. Additional stakeholders have been incorporated into planning efforts, as appropriate. (Supports P-MO-1)

The Response FIOP is based upon a no-notice incident. No specific tasks are included in Phases 1b or 1c. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. Refer to the base plan for general information regarding pre-incident operations.

Phase 1c—Credible Threat

End State: Plans continue to be updated and revised. Additional stakeholders have been incorporated into planning efforts, as appropriate. (Supports P-MO-1)

The Response FIOP is based upon a no-notice incident. No specific tasks are included in Phases 1b or 1c. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. Refer to the base plan for general information regarding pre-incident operations.

Phase 2a—Immediate Response

End State: Existing plans have been reviewed to identify preliminary information requirements and coordination structures. (Supports P-MO-1)

- Tasks by Phase, by ESF
 - ESF #1
 - ♦ Coordinate with other ESFs' adaptive planning efforts to provide access for response personnel to allow delivery of critical services to both survivors and response personnel.
 - ESF #2
 - ♦ Support planning for governmental emergency responders to provide restoration of communications capabilities.
 - ♦ Coordinate the activities of private sector entities in the restoration of their communications resources to provide accessible communications to both responders and survivors.
 - ♦ Participate with the private sector in developing IAPs related to the restoration of private sector communications assets.
 - ESF #3
 - ♦ Develop plans to ensure appropriate personnel, teams, and material are placed in an alert status.
 - ESF #5
 - ♦ Conduct continuous adaptive planning at the national-level to facilitate a coordinated response to the incident. Plans for the delivery of required resources, the next response period, and the evacuation of survivors are examples of the type of planning taking place.
 - ♦ Conduct planning and analysis to identify and employ national-level resources to support response and recovery operations.
 - ♦ Conduct national-level operational planning with respective region(s) to coordinate the development of unified Federal response plans.
 - ♦ Identify impacted areas and begin to establish coordination and planning with other Federal departments and agencies at both the national and regional levels.

- ESF #6
 - ♦ Adapt existing mass care, emergency assistance, temporary housing and human services plans and develop additional plans to provide ESF #6 services to survivors, including individuals with access and functional needs, such as individuals with disabilities, populations with LEP, and racially and ethnically diverse communities.
 - ♦ Support the evacuation of survivors who exceed the capacity of existing or projected shelter spaces, when appropriate.
- ESF #7
 - ♦ Adapt existing plans for logistical support to responders and survivors and promulgate IAPs for each operational period.
 - ♦ Activate/notify Logistics Management Center, Logistics Management Directorate (LMD) Plans Section, and LMD Planning Team, as required.
 - ♦ Initiates actions to coordinate funding for resources and transport.
- ESF #8
 - ♦ Review plans for the deployment of medical and other teams and conduct adaptive and functional planning to expedite deployment.
 - ♦ Assist with provision of health, behavioral health, and medical services for individuals with acute medical needs (who may also have disabilities or other access and functional needs) to maintain independence.
- ESF #9
 - ♦ Review and implement deployment plans for SAR teams.
 - ♦ Initiate incident action planning for on-scene operations.
- ESF #10
 - ♦ Implement plans to initiate deployment of ESF #10 resources.
- ESF #11
 - ♦ Provide supplemental nutrition assistance; respond to animal and agricultural health issues; provide technical expertise; coordinate and support animal and agricultural emergency management; ensure the safety and defense of the Nation's supply of meat, poultry, and processed egg products; and ensure the protection of natural and cultural resources and historic properties.
- ESF #12
 - ♦ Coordinate with private sector energy owners and operators; assist local, state, tribal, territorial, insular area, and regional governments to develop and refine their energy emergency assurance prioritization and restoration plans.
- ESF #13
 - ♦ Review and implement plans for Federal Law Enforcement Officer deployment.
 - ♦ Review and execute plans for provision of proper law enforcement authorities.
 - ♦ Execute Field Support Team (FST) activation plans.

- ♦ Coordinate with Federal law enforcement agencies to execute plans to deploy personnel.
- ESF #15
 - ♦ Review plans for the delivery of information to responders and survivors.
 - ♦ Develop and implement incident-specific messaging plans.
 - ♦ Execute ESF #15 staffing plans, adjusting as needed.
 - ♦ Assist in the planning process by providing information about the status of public releases.
 - ♦ Coordinate planning activities with all entities (local, state, tribal, territorial, insular area, and Federal entities) about the status of response activities and advisories to survivors.

Phase 2b—Deployment

End State: Existing plans have been modified for the incident using a coordinated adaptive planning process. Critical objectives and accompanying tasks have been identified for the Federal response effort. (Supports P-MO-2, P-MO-3)

- Tasks by Phase, by ESF
 - ESF #1
 - ♦ Develop and implement, in concert with state and Federal partners, contingency air traffic and airspace management measures (e.g., Temporary Flight Restrictions) to support critical response aviation operations such as SAR, evacuation, etc.).
 - ♦ Provide transportation planning assistance to the states for the evacuation of survivors including individuals with access and functional needs, such as individuals with disabilities.
 - ♦ Provide planning assistance to the states for the evacuation of household pets.
 - ♦ Identify temporary alternative transportation solutions and associated support systems that can be implemented by others when systems or infrastructure are damaged, unavailable, or overwhelmed.
 - ♦ Support the incorporation of planning across ESFs and the core capabilities for transportation needs and resources and integration of assets into response operations.
 - ESF #2
 - ♦ Coordinate the restoration of communications for both the public and private sectors to allow for better operational coordination of response activities.
 - ESF #3
 - ♦ Coordinate all adaptive and functional U.S. Army Corps of Engineers (USACE) plans and their execution to dispatch teams and resources, including adjusting plans in place for providing additional personnel and material.
 - ESF #4
 - ♦ Implement existing interagency plans using the national firefighting mobilization system to provide personnel, equipment, and supplies in support of local, state, tribal, territorial, and insular area agencies involved in wildland, rural, and urban firefighting operations.

- ESF #5
 - ♦ Coordinate adaptive planning efforts in order to facilitate response actions and the delivery of critical resources to the disaster area.
 - ♦ Facilitate interagency information sharing and planning activities through geospatial information systems necessary to gain a shared situational awareness and understanding for decision making.
 - ♦ Incorporate weather projections and impacts into planning for response operations and public dissemination of information.
 - ♦ Provide informational planning data through the Transportation and Movement Coordination Group and its partners through various systems, including modeling assessments, geospatial products, and infrastructure analysis to provide access for response priority objectives.
- ESF #6
 - ♦ Provide technical assistance for the development of local, state, tribal, territorial, insular area, and Federal governments, NGOs, and private sector operational plans for mass care, emergency assistance, temporary housing, and human services.
 - ♦ Develop plans to support local, state, tribal, etc., ESF #6 operations.
 - ♦ Assess and quantify projected housing needs, including needs for accessible housing.
 - ♦ Develop a preliminary temporary housing plan, including accessible housing.
 - ♦ Develop a donations strategy plan.
- ESF #7
 - ♦ Develop and implement plans for the delivery of critical resources to responders and survivors.
- ESF #8
 - ♦ Coordinate the Federal support for medical evacuations (e.g., pre-evacuation coordination, patient movement, planning for return of patients following the incident) with local, state, tribal, territorial, and insular area jurisdictions.
 - ♦ Provide health and medical services planning during the initial response; the focus of the medical personnel will be on providing acute medical care (e.g., emergency care, field triage) for survivors and responders before transitioning to provide general practice care.
- ESF #9
 - ♦ Develop IAPs for each operational period for SAR operations.
- ESF #10
 - ♦ Establish ESF #10 incident command/unified command as ESF #10 resources arrive on site and initiate incident action planning to continue efforts to characterize the environmental contamination, and, as appropriate/feasible, contain/stabilize releases and identify high priorities for environmental protection and cleanup/decontamination.

- ESF #11
 - ♦ In coordination with ESF#6, provide USDA Foods and infant formula and baby food as needed as requested. Review state requests to operate a D-SNAP (Once approved by USDA Food and Nutrition Service, a D-SNAP is usually implemented in Phase 3a, Short-term Recovery.)
 - ♦ Implement existing plans and provide adaptive planning to address existing conditions through situational assessment and provide functional planning for the delivery of animal- and agriculture-specific expertise.
 - ♦ Initiate plans to assess conditions for cultural resources, including museums, archives, historic structures, and archaeological sites as appropriate.
 - ♦ Implement environmental consultations as appropriate.
 - ♦ Initiate plans for the protection of natural and cultural resources and historic properties, as appropriate.
- ESF #12
 - ♦ Coordinate with private sector energy owners/operators to facilitate energy restoration.
- ESF #13
 - ♦ Coordinate the development of on-scene safety and security plans for each type of facility requiring such services, including shelters and critical infrastructure; provide assistance for the maintenance of public safety and security.
- ESF #15
 - ♦ Assist the planning process by providing information about the status of public releases.
 - ♦ Coordinate planning activities with all entities (local, state, tribal, territorial, insular area, and Federal government entities) about the status of response activities and information to survivors.

Phase 2c—Sustained Response

End State: Final resource planning has been conducted, based on the remaining tasks required to meet the critical objectives. Coordination has taken place between response and recovery plans/planners. (Supports P-MO-3, P-MO-4)

- Tasks by Phase, by ESF
 - All
 - ♦ Participate in incident action planning, other adaptive planning, functional planning and other efforts to support efforts of responders and protect survivors.
 - ESF #6
 - ♦ Develop and implement crisis-counseling plan for responders and survivors.

Phase 3a—Short-term Recovery

End State: Plans have been developed for transition to long-term recovery and the demobilization of Federal response personnel, programs, and resources. (Supports P-MO-1, P-MO-4)

- Tasks by Phase, by ESF

- All
 - ♦ Participate in the development of planning that will facilitate the transition from response activities to intermediate- and long-term recovery activities.

Administration and Support

There are several directives, laws, and other doctrine that influence or assign planning responsibility or entities, such as the Post Katrina Emergency Management Reform Act, Presidential directives, or Federal Continuity Directive-1.

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Appendix 1 to Annex B: Risk Management

Purpose

The purpose of the Risk Management appendix is to illustrate factors that have the potential to impede the successful delivery of the Response core capabilities and to describe the process for managing operational risks. Continuity planning ensures the uninterrupted ability to engage partners; respond appropriately with scaled, flexible, and adaptable operational capabilities; specify succession to office and delegations of authority to protect the unity of effort and command; and to account for the availability of responders regardless of the threat or hazard.

Risk is an integrating factor to inform response planning and assist in the development of strategies. The information gathered during risk assessment and analysis enables a prioritization of preparedness efforts and an ability to identify capability requirements across the whole community. Risk management supports the development of shared goals and alignment of capabilities and strategies in plans to reduce the risk and increase operational effectiveness vertically within the Response core capabilities and horizontally across the mission areas.

Situation

The Response FIOP leverages findings from the SNRA to build and deliver Response core capabilities. The SNRA, developed by the Department of Homeland Security (DHS) identified the threats and hazards that pose the greatest risks to the Nation. The assessment affirmed the need for an all-hazards, capability based approach to account for responses to all types of incidents and to develop the Response core capabilities necessary to achieve the National Preparedness Goal.

Risk Assessment

The SNRA identified the risks that would have the greatest impact on the security and stability of our Nation, which are illustrated in Table B.1-1.

Scientific Data and Tools to Enable Place-Based Risk Assessment

The SNRA provides an objective basis for understanding the greatest threats based upon existing data and historical information. Place-based hazard risk assessments rely upon spatially- and temporally-relevant data and models, information, and decision support tools that enable an accurate risk assessment for a given location and hazard scenario. Federal science and technology investments support capabilities such as Earth observations, including both ground- and space-based assets, integrated modeling approaches that provide an understanding of evolving natural phenomenon (such as climate change impacts on precipitation) and associated multi-sectoral impacts, and risk assessment decision support tools that characterize physical, economic, and social outcomes. Scientific advances in the understanding of hazard and threat characterization and impact and outcome modeling are critical to planning supported by place-based risk assessment.

The assessment provides a common ground for unity of effort and consistency in how risk is applied across the five mission areas to address the greatest threats. To determine if an incident would pose a high risk, the SNRA collected data in the following categories: health and safety, economic, social, psychological, and environmental. The data was based on a number of assumptions such as the number of fatalities, injuries, and/or illnesses; the direct economic loss; the population that would be displaced from their homes for more than two days; the psychological impact of the incident on the community; and the effects of an incident on the environment. From the data collected and historical

information, experts estimated the level of frequency for an incident and the probability of an incident occurring. They used frequency and probability to simulate the total number of occurrences of an incident in a five-year period and normalized each category to a per-year value.

Table B.1-1: SNRA National Incident Levels

Threat/Hazard Group	Threat/Hazard Type	SNRA National-level Incident Description
Natural	Animal Disease Outbreak	An unintentional introduction of the foot-and-mouth disease virus into the domestic livestock population in the United States.
	Earthquake	An earthquake occurs within the United States or its territories resulting in direct economic losses greater than \$100 million.
	Flood	A flood occurs within the United States or its territories resulting in direct economic losses greater than \$100 million.
	Human Pandemic Outbreak	A severe outbreak of pandemic influenza with a 25 percent gross clinical attack rate spreads across the U.S. populace.
	Hurricane	A tropical storm or hurricane impacts the United States or its territories resulting in direct economic losses of greater than \$100 million.
	Space Weather	The sun emits bursts of electromagnetic radiation and energetic particles causing utility outages and damage to infrastructure.
	Tsunami	A tsunami with a wave of approximately 50 feet impacts the Pacific Coast of the United States.
	Volcanic Eruption	A volcano in the Pacific Northwest erupts impacting the surrounding areas with lava flows and ash and areas east with smoke and ash.
	Wildfire	A wildfire occurs within the United States resulting in direct economic losses greater than \$100 million.
Technological/Accidental	Biological Food Contamination	Accidental conditions where introduction of a biological agent (e.g., Salmonella, E. coli, botulinum toxin) into the food supply results in 100 hospitalizations or greater and a multi-state response.
	Chemical Substance Spill or Release	Accidental conditions where a release of a large volume of a chemical acutely toxic to human beings (a toxic inhalation hazard) from a chemical plant, storage facility, or transportation mode results in either one or more offsite fatalities, or one or more fatalities (either on- or off-site) with off-site evacuations/shelter-in-place.
	Dam Failure	Accidental conditions where dam failure and inundation results in one fatality or greater.
	Radiological Substance Release	Accidental conditions where reactor core damage causes release of radiation.

Threat/Hazard Group	Threat/Hazard Type	SNRA National-level Incident Description
Adversarial/ Human-caused	Aircraft as a Weapon	A hostile non-state actor(s) crashes a commercial or general aviation aircraft into a physical target within the United States.
	Armed Assault	A hostile non-state actor(s) uses assault tactics to conduct strikes on vulnerable target(s) within the United States resulting in at least one fatality or injury.
	Biological Terrorism Attack (non-food)	A hostile non-state actor(s) acquires, weaponizes, and releases a biological agent against an outdoor, indoor, or water target, directed at a concentration of people within the United States.
	Chemical/Biological Food Contamination Terrorism Attack	A hostile non-state actor(s) acquires, weaponizes, and disperses a biological or chemical agent into food supplies within the U.S. supply chain.
	Chemical Terrorism Attack (non-food)	A hostile non-state actor(s) acquires, weaponizes, and releases a chemical agent against an outdoor, indoor, or water target, directed at a concentration of people using an aerosol, ingestion, or dermal route of exposure.
	Cyber Attack against Data	A cyber attack that seriously compromises the integrity or availability of data (the information contained in a computer system) or data processes resulting in economic losses of a billion dollars or greater.
	Cyber Attack against Physical Infrastructure	An incident in which a cyber attack is used as a vector to achieve effects which are "beyond the computer" (i.e., kinetic or other effects) resulting in one fatality or greater or economic losses of \$100 million or greater.
	Explosives Terrorism Attack	A hostile non-state actor(s) deploys a man-portable improvised explosive device (IED), vehicle-borne IED, or waterborne IED in the United States against a concentration of people, and/or structures such as critical commercial or government facilities, transportation targets, or critical infrastructure sites, etc., resulting in at least one fatality or injury.
	Nuclear Terrorism Attack	A hostile non-state actor(s) acquires an improvised nuclear weapon through manufacture from fissile material, purchase, or theft and detonates it within a major U.S. population center.
	Radiological Terrorism Attack	A hostile non-state actor(s) acquires radiological materials and disperses them through explosive or other means (e.g., a radiological dispersal device or creates a radiation exposure device).

In addition to the SNRA, the Threat and Hazard Identification and Risk Assessments (THIRA) conducted by local, state, tribal, territorial, and insular area jurisdictions, FEMA, and other Federal department and agency regional offices provide a common means for understanding the risks that communities face and enhances the life-safety, lifesaving, decision-making process. The THIRA takes into consideration the threats and hazards that pose the greatest risks to a community,

regardless of cause, and how each threat or hazard would affect the core capabilities identified in the National Preparedness Goal. The THIRA is used to inform planning and other preparedness efforts and can be used to complement Hazard Identification and Risks Assessments.

In addition to the THIRA and the SNRA, a separate statistical effort was developed, which supports the categorization of disasters from Level 1 to Level 3, based upon quantifiable data, and aids in the prediction of Federal assistance that may be required. Table B.1-2 provides a brief description of each incident level. This data model, created by FEMA's Office of Policy and Program Analysis, in collaboration with FEMA's Response Directorate, uses six key factors to determine incident impact and levels: the number of people displaced; square miles affected; number of staff deployed; individual and household program awards; number of mitigation projects; and number of Public Assistance projects. This analysis includes any incident, nationwide, that has resulted in a presidential declaration and provides a means for identifying the frequency and severity of a wide range of incidents impacting the United States and its territories based upon historical occurrences.

Subsequently, the model categorizes resources by kind and type, including size, capacity, capability, skill, and other characteristics. This connection between risk and resources ensures the distribution of resources across all mission areas, levels of governments, NGOs, private sector partners, and communities is more efficient.

Table B.1-2: Incident Levels

Level	Description
1	An incident of such magnitude that the available assets designed and put in place for the response are completely overwhelmed or broken at the local, regional, or national level. Due to the severity, size, location, and actual or potential impact on public health, welfare, and infrastructure, the response requires an extreme amount of Federal assistance for response and recovery efforts for which the capabilities to support do not exist at any level of government.
2	A disaster which, due to its severity, size, location, and actual or potential impact on public health, welfare, and infrastructure, requires a high amount of direct Federal assistance for response and recovery efforts. Disaster requires elevated coordination among local, state, tribal, territorial, insular area, and Federal entities due to moderate levels and breadth of damage.
3	A disaster which, due to its severity, size, location, and actual or potential impact on public health, welfare, and infrastructure, requires a moderate amount of direct Federal assistance. Typically, this is primarily a recovery effort with minimal response requirements, and existing Federal and regional resources will meet requests.

The following chart, Figure B.1-1, organized by FEMA Region, illustrates the number of incidents that occurred between the years of 1998–2011. The y-axis provides the type and the number of incidents for each level, each of which is color-coded (e.g., red for Level 2). The x-axis categorizes the type of incident, to include fire, snow/ice, tornado, hurricane, thunderstorm, and other not-applicable incidents.

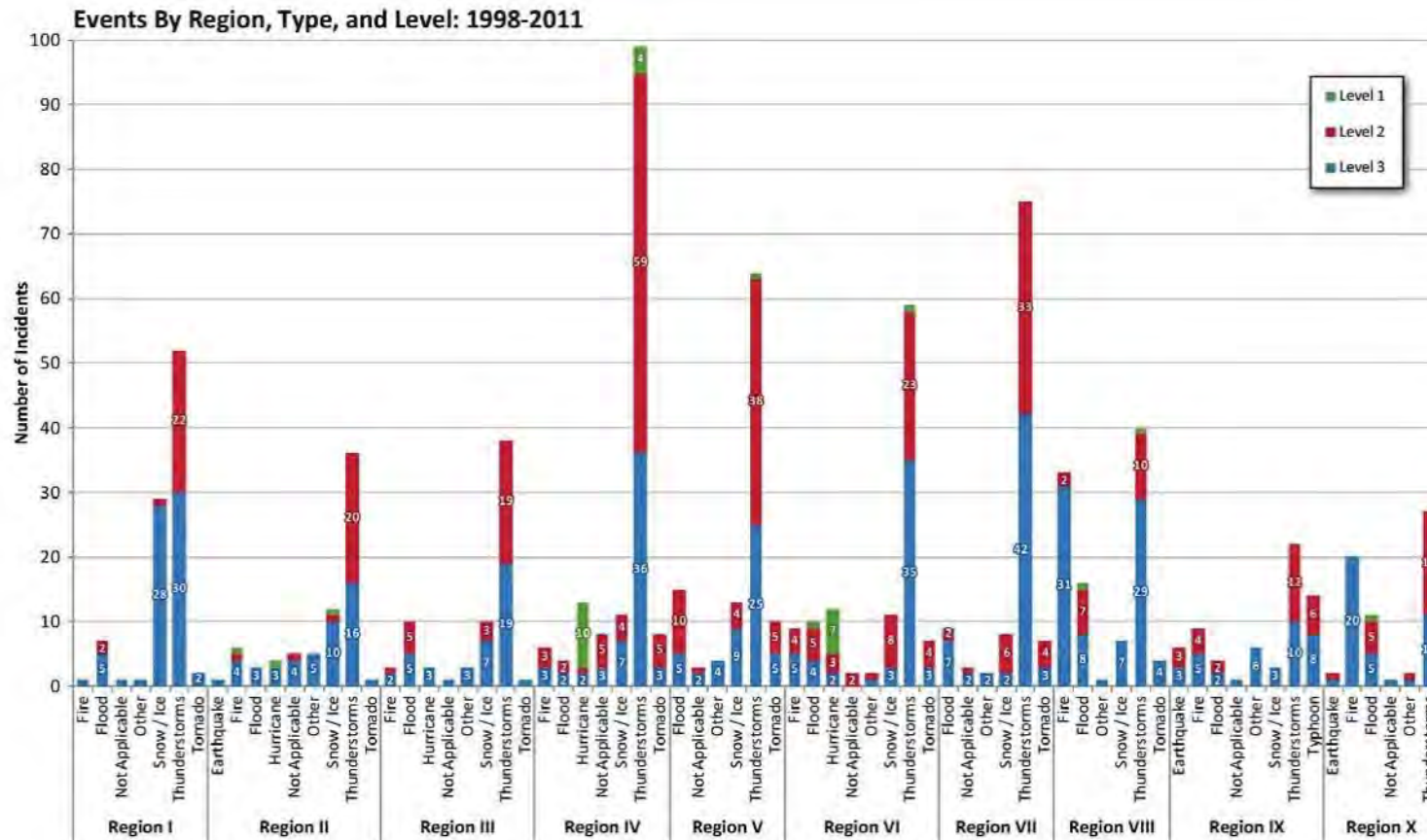


Figure B.1-1: Summary of Incidents by Level and FEMA Region—1998–2011

Figure B.1-2 lists the number of incidents for each month from 1998–2011, organized by FEMA Region. The y-axis represents the number of incidents, while the x-axis lists incidents by FEMA Regions and the months of the year. The data table lists the number of incidents for each FEMA Region by month. Each FEMA Region is color-coded and corresponds to the color-coded legend on the right of the graph.

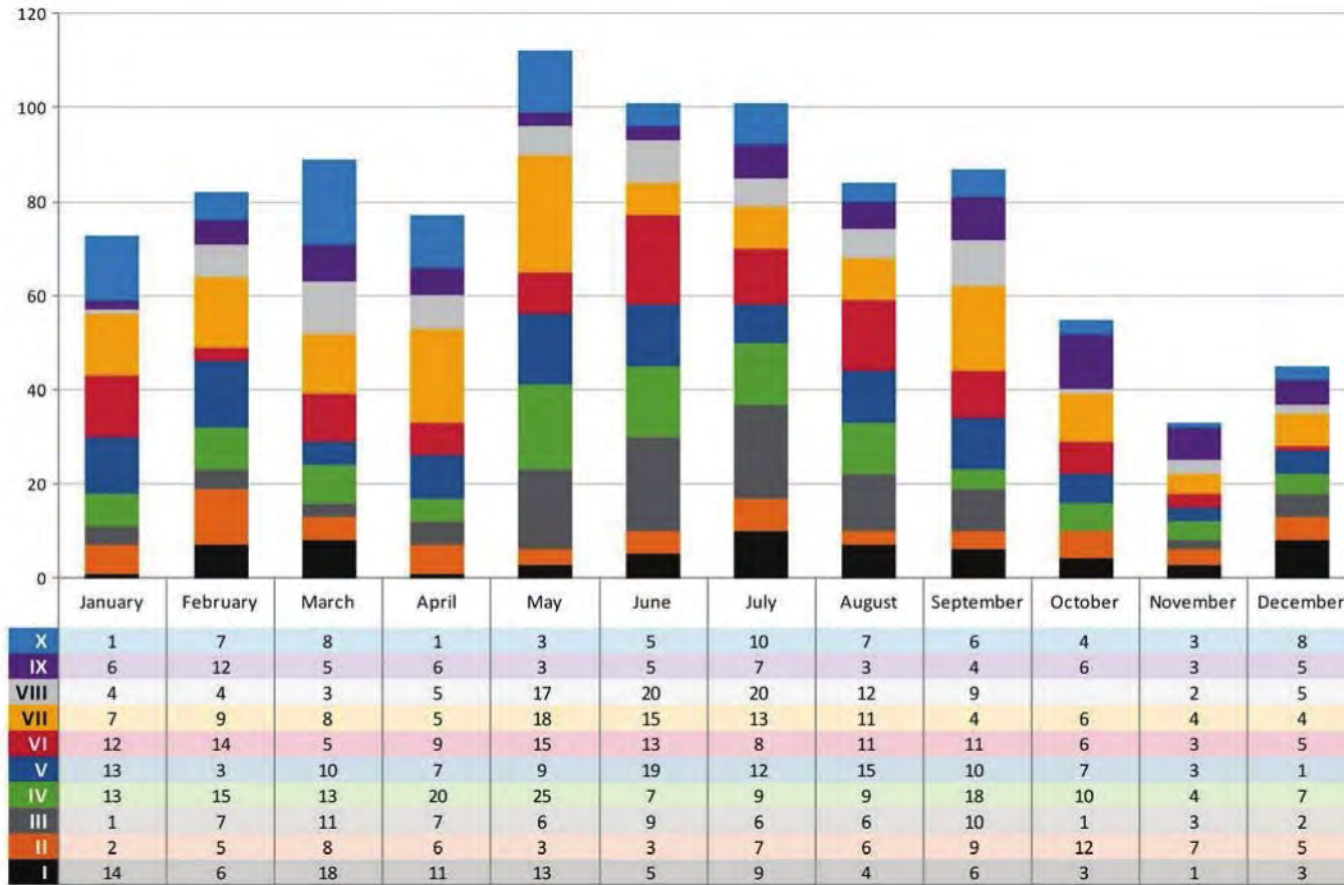


Figure B.1-2: Number of Incidents by Month and FEMA Region—1998–2011

Figure B.1-3 lists the type of incident (e.g., fire, flood, hurricane, snow/ice, thunderstorms, and tornado) as well as the number of incidents for each level.

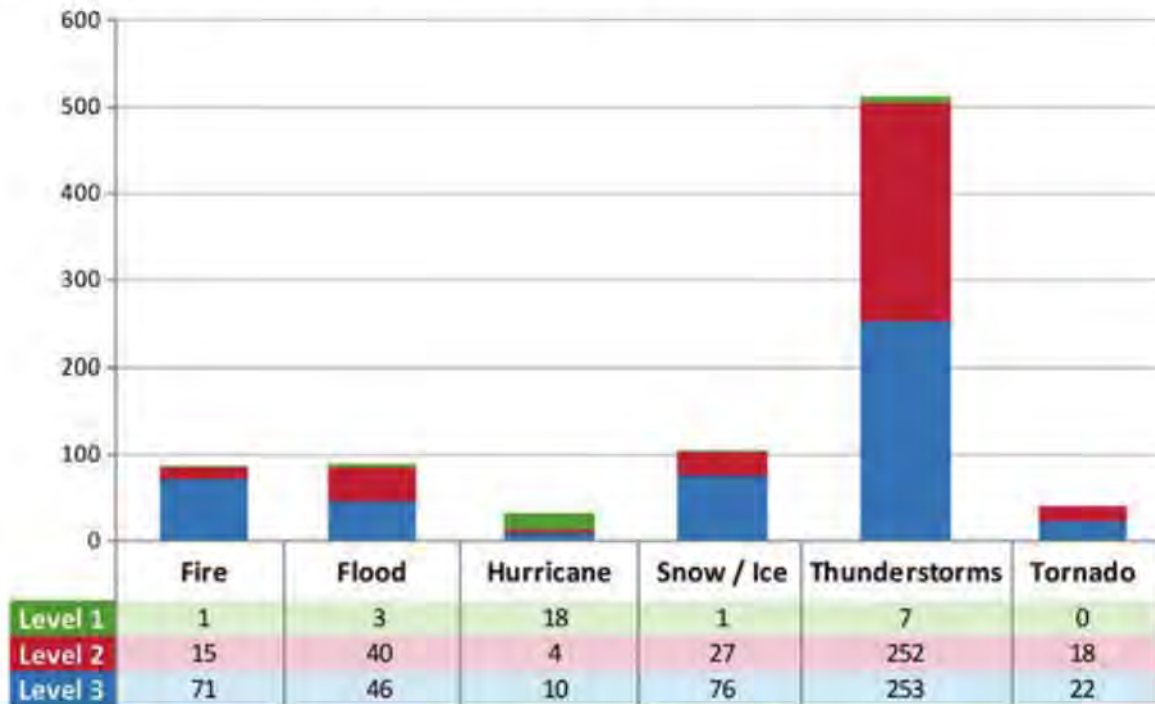


Figure B.1-3: Incidents Type and Level—1998–2011

Mitigation uses risk analysis information and data to inform response and recovery decision making, thereby minimizing operational risk and managing short-term objectives through long-term data and analysis. Use of these tools increases the preparedness and effectiveness of response teams, which play a significant role in reducing risk by preparing for and minimizing the consequences caused by incidents. It improves operational response and can integrate mission area strategies. Short-term mitigation measures are designed to de-escalate and remediate impacts and reduce the cascading effect of incidents. Long-term mitigation often occurs concurrently with response and recovery actions and encompasses forensic data collection and post-event analysis as part of response and recovery efforts. Effective community mitigation efforts can directly reduce the required scale of response operations and, therefore, may also reduce the overall financial cost of deployable life-safety services. Additionally, long-term vulnerability reduction initiatives and investments can reduce response and recovery resource requirements in the wake of a disaster or incident. Reducing long-term risk combined with continuity of operations and recovery planning before a disaster, increase resiliency and the likelihood that communities and organizations can perform essential functions and deliver core capabilities after an event.

Operational Risk and Risk Management Strategies

Operational risks associated with the delivery of Response core capabilities are categorized into seven primary areas, as demonstrated in Table B.1-3.

Table B.1-3: Operational Risk Categories

Operational Risk Category	Category Description
Authority/Legal (AL)	Pertaining to law; connected with law and its administration.
Command, Control, and Communication (C3)	Knowledgeable exercise of authority in establishing and accomplishing objectives and goals (including prioritizing) and conveying that information.
Process and Implementation (P/I)	Procedures executed to accomplish a plan, task, or a method.
Resources (R)	Personnel, teams, facilities, equipment, and/or supplies to meet survivor and responder needs.
Site Access and Mobility (SAM)	Access or transportation of responders to or within the incident area.
Situational Awareness (S/A)	Perception and availability of the actual or potential incident environment critical to decision making.
Social/Public Will (S/PW)	Choices that are made by the public contrary to response messaging.

The operational risks and impacts for each core capability were assessed and a risk management strategy of acceptance, avoidance, transfer, or control was developed. These strategies are identified in Table B.1-4.

Table B.1-4: Core Capability Risk Management Strategy

Core Capability	Operational Risk Category	Risk Management Strategy
Situational Assessment	C3 P/I R	Review and revision of existing policies, plans, and procedures. Utilization of information to inform initial response activities as a means to provide an initial shared situational awareness until a standard process could be accomplished, which would include a more thorough analysis and provide shared situational understanding.
Planning	P/I S/A	Create a national strategy for the integration and synchronization of plans. Minimize the shortage of available information.
Operational Coordination	AL C3 P/I	Determine strategies to clarify decision making, delegation, and implementation processes used during an incident.
Public Information and Warning	AL P/I R S/PW	Identify alternative strategies for providing timely and accurate alerts and warnings to the public and responders. Proactive measures to enhance the willingness of the public to trust or accept information for non-traditional distribution methods.
Critical Transportation	P/I	Develop a mass evacuation plan to emphasize inclusion of NGOs who serve individuals with access and functional needs, such as individuals with disabilities, populations with LEP, and racially and ethnically diverse communities. Federal transportation support to state officials for the purposes of expediting damage assessments for ground transport strategies.

Core Capability	Operational Risk Category	Risk Management Strategy
Operational Communications	R S/A SAM	Develop and employ a standardized interoperable format for data-sharing for all systems in the National Emergency Communications Plan. Identification of strategies for the U.S. Government to support critical communications providers' response efforts.
Environmental Response/Health and Safety	R S/A S/PW	Develop policies and processes to provide ready access to and rapid dissemination of national security information.
On-scene Security, Protection, and Law Enforcement	AL R	Collaborate with local, tribal, and territorial law enforcement agencies for the purposes of deputizing individuals from various law enforcement professional associations to augment critical staffing shortages.
Mass Search and Rescue	C3 R SAM	Develop a Catastrophic Incident SAR Addendum, which would include planning, training, and exercises.
Mass Care	C3 R SAM	Coordinate with local, state, tribal, territorial, insular area, and Federal jurisdictions, as well as, private sector, NGOs, and the National Voluntary Organizations Active in Disaster to mitigate shortages of equipment, supplies, trained personnel, and availability of shelters, including goods and services for individuals with disabilities, individuals with LEP, and others with access and functional needs, and physically accessible facilities. Coordinate with public, private, and NGOs to prevent duplication of efforts in securing much needed resources and supplies.
Logistics and Supply Chain Management	P/I S/PW R	Engage and integrate private sector and nongovernmental entities into government emergency management processes. Identify strategies to expand security support for resources during movement, storage, and distribution process.
Public Health, Healthcare, and Emergency Medical Services	R P/I S/A	Identify strategies to accommodate individuals with medical needs, people with disabilities, and others with access and functional needs. Develop and use a healthcare provider database to identify individuals that can meet specialized medical, behavioral health and veterinary capabilities to offset shortages in trained personnel.
Infrastructure Systems	P/I S/A S/PW SAM	Coordinate with local, state, tribal, territorial, and insular area governments and with other Federal departments and/or agencies to identify and prioritize the restoration of critical infrastructure, electronic information and communications systems, and services and the information contained therein. Coordinate with other Federal departments and/or agencies to quickly clear debris to gain access and restore critical infrastructure.

Core Capability	Operational Risk Category	Risk Management Strategy
Fatality Management Services	AL R SAM	Develop a national framework to provide guidance on the recovery, management, and processing of a catastrophic number of fatalities. Develop a reunification system to include mortuary information and public submissions as a means to rapidly facilitate the identification process.
Fire Management and Suppression		Provide structural, wildland, and specialized firefighting capabilities in order to manage and suppress fires of all types, kinds, and complexities while protecting the lives, property, and environment in the affected area.

Appendix 2 to Annex B: Situational Assessment

Purpose

The purpose of this appendix is to describe the delivery of the Situational Assessment core capability.

The Situational Assessment core capability provides all decision makers with decision-relevant information regarding the nature and extent of the hazard, any cascading effects, and the status of the response.

The Situational Assessment (SA) critical tasks are as follows:

- **SA-Critical Task-1:** Deliver information sufficient to inform decision making regarding immediate lifesaving and life-sustaining activities, and engage governmental, private, and civic sector resources within and outside of the affected area to meet basic human needs and stabilize the incident.
- **SA-Critical Task-2:** Deliver enhanced information to reinforce ongoing lifesaving and life-sustaining activities, and engage governmental, private, and civic sector resources within and outside of the affected area to meet basic human needs, stabilize the incident, and transition to recovery.

This core capability is organized as an appendix to the Planning Annex because it enables planning similar to the way the situational unit aligns to the Planning Section in the National Incident Management System (NIMS). Situational Assessment collects, processes, and organizes ongoing situation information; prepares situation summaries; and develops projections and forecasts of future events. It provides context to the resources and operational environment to directly advise program planning and provide vital information to inform planning in anticipation of an incident and for post-incident planning.

Situation

The scope and geographic size of an incident can significantly affect the operational procedures for responders on the scene. An impacted area's geographic composition can potentially limit the ability to rapidly process and communicate large quantities of information and provide accurate situational awareness to facilitate decision making. A situational assessment can help to mitigate this challenge by providing all decision makers with the most current and accurate information possible regarding the nature and extent of the hazard, any cascading effects, and the status of the response. A situational assessment is necessary to inform decision making regarding immediate lifesaving and life-sustaining activities and to engage governmental, private, and nonprofit sector resources within and outside of the affected area to meet basic human needs, stabilize the incident, and transition to recovery. To further facilitate collaborative planning and assist all echelons in achieving situational awareness, a common operational picture (COP) is used as a single identical display of relevant information shared by more than one organization.

Situational awareness is a necessary precursor to developing a situational assessment. A potential setback to the establishment of effective situational awareness for responders is the inability to sufficiently collect, analyze, and disseminate information and process large amounts of incoming data in a timely fashion. Situational awareness requires continuous monitoring of relevant sources of information regarding actual and developing incidents to rapidly provide accurate and accessible

information to decision makers. Depleted capabilities within the impacted area may not only impact resource distribution, but also cause delays in information collection and dissemination for situational awareness. At times, only limited resources will be available to analyze and disseminate information in a timely fashion. Poor information may lead to an inaccurate understanding by senior leaders and will affect their situational understanding and decision-making abilities. Maintaining shared situational awareness and the COP provides senior leaders with a greater situational understanding to assess progress and make informed decisions.

The collection and dissemination of information in a timely manner is vitally important to gaining effective and shared situational awareness; however, this can be challenging to accomplish. Limited access to interoperable communications systems (e.g., voice, data) among local, state, tribal, territorial, and insular area entities can severely limit information sharing between responders, leading to information gaps and coordination challenges. A limited inventory of planning partners' procedures, essential needs, and capabilities can diminish the relevance of the baseline assessment of information and needs, which can delay functional planning and inhibit decision making. The lack of a formal method to track information and resource requests across individual operation centers can produce duplicative or conflicting messaging, resulting in an inaccurate assessment of the situation. The lack of a standard reporting system across the whole response community means that reports are received in varying formats. Data that is provided requiring specialized infrastructure or is restricted to certain users limits its validity and availability. This can delay analysis and may necessitate additional requests for information to obtain necessary data.

Another potential shortfall for responders is the inability to determine information veracity, negatively affecting decision-making capabilities and public confidence. The large amount of incoming information requires vetting and validation prior to dissemination to the public. Conflicting or incorrect information may overwhelm or confuse the public, resulting in low public confidence and the spread of misinformation.

Assumptions

General assumptions for the Response FIOP have been identified in the base plan. Assumptions specific to this core capability include:

- Local, state, tribal, territorial, insular area, Federal governments, and private sector entities have the capacity to receive and disseminate information and status updates.
- Situational awareness will be challenging in the early hours of an incident, particularly a high-magnitude incident.

Mission

Federal interagency partners will deliver information sufficient to inform decision making regarding immediate and ongoing lifesaving and life-sustaining activities and engage governmental, private, and public sector resources within and outside of the affected area to meet basic human needs and stabilize the incident.

Execution

Concept of Operations

Phase 1

As the ESF #5 coordinating agency, FEMA works with local, state, tribal, territorial, insular area, and Federal entities, NGOs, and the private sector to develop and update interagency operational plans.

Each Federal department or agency maintains standardized Information Collection Plans (ICP) or processes through their respective operations centers, or as mandated by existing policies. Many departments and agencies maintain watch operations to monitor incoming information in order to maintain situational awareness of threats or developments that may be related to their mission and that require potential Federal response support. FEMA improves standardized processes and templates for information submission to enhance delivery of Federal resources to local, state, tribal, territorial, and insular area entities during an emergency or disaster and reduce redundant information requests. DHS continues to update information-sharing tools such as the Homeland Security Information Network (HSIN) Web portal to increase compatibility with local, state, tribal, territorial, and insular area entities, NGOs, and private sector reporting mechanisms. Many members of the private sector and NGOs with a role in response participate in planning efforts. Threat and hazard risk analyses are developed in coordination with the public and private sectors to inform response and recovery decision making.

Phase 2

When incidents impede the ability to communicate effectively or develop impact assessments, risk analysis and hazard modeling can provide operational assumptions for first responders to help them understand more about the situation and be better prepared to respond. At the beginning of Phase 2, there are organizations/procedures that facilitate horizontal coordination of critical information from Federal departments and agencies (such as the National Biosurveillance Integration Center and others). Inclusion of the other mission areas in the evaluation of information and the development of a situational assessment enhances the ability of response to provide the most complete assessment and provide for an accurate COP; however, this does not impact the normal reporting methods to or across mission areas. ESF #5 collects, analyzes, processes, and disseminates information to facilitate planning and decision making at the field, regional, and headquarters levels. The current situation, in addition to any threat information, will be collected, analyzed, and processed to inform Response activities as well as Prevention, Protection, Mitigation, and Recovery activities, as appropriate.

Situational information is gathered from sources closest to the incident (e.g., first responders, NGOs, and local government officials). It is analyzed and assessed by technical specialists, transformed into products to support decision making, and submitted and disseminated to the appropriate operational element(s). At the state EOC, reports are analyzed and disseminated to the appropriate operational element(s). The FEMA State Liaison directs information to the RRCC, which determines the extent and capability of the affected states to manage the incident, and to the NRCC, which provides shared situational awareness, modeling, and risk analysis information during crises; identifies information requirements; and establishes reporting thresholds to meet expectations of decision makers and partners. ESF #5 serves as the centralized conduit for Federal situation reports to the National Operations Center (NOC) from the various ESFs and provides an informational link between the NRCC, Federal department and agency operations centers, and other NOC components.

At the Federal level, information is collected and disseminated through various reports generated by: Federal departments and agencies; local, state, tribal, territorial, and insular area governments; the

private sector; and NGOs. The NOC Watch, NRCC, RRCC, and JFO generate a number of information requirements, known as essential elements of information, to facilitate information collection throughout an incident. Essential elements of information support the critical information requirements by providing more detail for situational awareness and decision making. Elements that coordinate or provide situational assessment information for specific incidents, such as the role of the National Cybersecurity and Communications Integration Center for cyber threats and incidents, will be detailed in the appropriate incident-specific annexes.

Essential elements of information, outlined in situational reports, are elements that must be verified and include explicit details (who, what, where, when, and how) related to the incident. Status reports, which may be contained in Situation Reports, relay specific information about resource needs and availability. Based on an analysis of the incident's impacts, local, state, tribal, territorial, and insular area governments, in coordination with Federal departments and agencies, provide emergency information to the public. Table B.2-1 identifies the essential elements of information required to effectively and efficiently meet each ESF's targets and objectives.

Table B.2-1: Essential Elements of Information by ESF

ESF	Essential Elements of Information
ESF #1— Transportation	<ul style="list-style-type: none"> ▪ Status of all transportation systems (air, sea, land, rail). In particular, port closures, airport closures and major delays, and impacts to railroad systems and public transit should be communicated. ▪ Status of major/primary roads. ▪ Status of critical and non-critical bridges, including bridge closures. ▪ Status of evacuation routes. In particular, the following should be communicated: <ul style="list-style-type: none"> • Activation and suspension of contra-flow operations • Road closures impacting evacuation traffic • Emergencies impacting evacuation traffic • Major evacuation traffic disruptions. ▪ Accessible transportation with power lifts and ramps and physical accessibility at embarkation and debarkation points, stations and depots. ▪ Limiting factors or shortfalls.

ESF	Essential Elements of Information
ESF #2— Communications	<ul style="list-style-type: none"> ▪ Status and content of a communications snapshot assessment. ▪ The anticipated communications impact (on landlines and cellphones) based on current models. In particular: <ul style="list-style-type: none"> • Number of customers without service. • Identification of communities without communications capabilities. • Identification of critical facilities without communications capabilities. ▪ Potential requirements for satellite and radio equipment. ▪ Status of Public Safety Answering Points (911 Dispatch), including which, if any, are inactive. ▪ Status of the availability of communication resources. In particular, the number of available Cell on Wheels. ▪ Number of Public Safety Answering Points in the affected area. ▪ Number and location of Mobile Emergency Operations Vehicles. ▪ Number and location of available Radio Amateur Civil Emergency Service groups. ▪ Number of Land Mobile Radio networks established. ▪ Limiting factors or shortfalls.
ESF #3—Public Works and Engineering	<ul style="list-style-type: none"> ▪ Status and location of Public Works Planning and Response Teams (PRT). ▪ Status of river gauge and levees. ▪ Status of debris removal; in particular, estimated total and percentage complete by county. ▪ Status of public water supply, including potential issues with respect to the restoration of non-operational systems and status of public wastewater systems. ▪ Status of blue roof (fiber-reinforced sheeting) PRT. In particular, the following should be communicated: <ul style="list-style-type: none"> • Number of open right of entry collections sites • Was right of entry received to install blue roofs • Total number of blue roofs currently installed • Expected rate of blue roof installations per day. ▪ Status of 249th Battalion Power PRT. In particular, the following should be communicated: <ul style="list-style-type: none"> • Number of pre-installation inspections received • Number of installations completed • Number of de-installs completed. ▪ Status of critical public facilities, including the number of completed assessments. ▪ Status and location of the Local Government Liaison. ▪ Status of mission assignment for ESF #3 Lead. ▪ Limiting factors or shortfalls. ▪ Number and names of public water services facilities that are operational, non-operational, and out of contact. ▪ Number and names of waste water treatment plants that are operational, non-operational, and out of contact.

ESF	Essential Elements of Information
ESF #4— Firefighting	<ul style="list-style-type: none"> ▪ Number of ESF #4 staff deployed to the RRCC, EOC, JFO, and field. ▪ Current or expected mission assignments. ▪ Number, location, and role of pre-positioned ESF #4 resources. ▪ Number, location, and role of deployed ESF #4 resources. ▪ Limiting factors or shortfalls.
ESF #5— Information and Planning	<ul style="list-style-type: none"> ▪ Mission Assignments/Action Request Forms. ▪ Status of evacuee operations by bus, air, and rail. ▪ Situational awareness. ▪ Division Coordinator Reports/Security, Water, Energy, Academia, and Telephone Reports. ▪ ESFs activated or on alert. ▪ Limiting factors or shortfalls. ▪ Status of animal populations/facilities. ▪ Animal impacts and risks to responders and the public. ▪ Status of animal response organizations and unmet animal needs. ▪ Preliminary Damage Assessment information and local impact assessment is provided by American Red Cross and other NGOs responding locally.
ESF #6—Mass Care, Emergency Assistance, Temporary Housing, and Human Services	<ul style="list-style-type: none"> ▪ Status of human and household pet shelters, people with disabilities and others with access and functional needs and people with different levels of LEP. ▪ Status of distribution of emergency supplies and reunification services. ▪ Status of feeding operations, including location, number of fixed sites and mobile units and the number of meals prepared and served on a daily basis. ▪ Potential requirements for sheltering, feeding, distribution of emergency supplies, reunification, access and functional needs support, household pets and service and assistance animals and evacuee support when these activities are occurring. ▪ Names of voluntary agencies assisting and their shortfalls/resources needed. ▪ Status and impact of unsolicited donations and messaging to address the problems. ▪ Percent of rental resources available. ▪ Number and status of Individual Assistance Preparedness actions. ▪ Number of Preliminary Damage Assessment teams on alert and deployed, the number of areas scheduled for assessment, and the number of assessments completed. ▪ Situational Awareness information reported by teams, including: geographic areas sustaining damage; qualitative descriptions of types of damage; and any reported social (e.g., looting), economic, and political impacts (e.g., tribal). ▪ Limiting factors or shortfalls. ▪ Availability of resources to ensure the functional needs of individuals with disabilities, individuals with LEP, and others with access and functional needs.

ESF	Essential Elements of Information
ESF #7—Logistics	<ul style="list-style-type: none"> ▪ Location of ISBs. ▪ Location of Initial Operating Facility/Area Field Office (AFO)/Proposed AFOs/Disaster Recovery Centers. ▪ Identification of property leasing issues, if any, by General Services Administration (GSA) leasing specialists. ▪ Expected date of JFO/AFO opening. ▪ Status of Responder Support Base leasing. ▪ Identification of damages to Federal facilities and buildings. ▪ Identification of critical resource needs. ▪ Limiting factors or shortfalls.
ESF #8—Public Health and Medical Services	<ul style="list-style-type: none"> ▪ Number of total medical facilities in the impact zone. ▪ Name and location of medical facilities operating on generator power. ▪ Name and location of medical facilities evacuated. ▪ Number and location of medical needs shelters operating. ▪ Name and location of closed medical facilities (unable to provide services). ▪ Location of medical evacuation airports. ▪ Number of medical evacuations. ▪ Location of ESF #8 resources (personnel/teams and equipment). ▪ Location of Department of Health and Human Services (HHS) Incident Response Coordination Teams. ▪ Location of Federal Medical Stations. ▪ Number of ESF #8 patient encounters. ▪ Number of State reported fatalities. ▪ Location of temporary morgue facilities ▪ Limiting factors or shortfalls.
ESF #9—Search and Rescue	<ul style="list-style-type: none"> ▪ Type, assignment, resources, and status of Federal SAR resources. ▪ Status of SAR missions, including number of rescues, number of areas completed, and number of current counties or areas of operations. ▪ Limiting factors or shortfalls.
ESF #10—Oil and Hazardous Materials Response	<ul style="list-style-type: none"> ▪ Type and status of ESF #10 resource deployments. ▪ Status of significant oil or hazardous material releases. ▪ Number of oil and hazardous materials leaks, spills, or releases or threatened releases from facilities, vessels, pipelines, rail, and any other sources. ▪ Extent of oil and hazardous materials facilities (includes offshore facilities) or mobile facilities damaged, destroyed, or without power. ▪ Nature and extent of actual or potential environmental contamination and its environmental contamination and impacts, as appropriate. ▪ Limiting factors or shortfalls.

ESF	Essential Elements of Information
ESF #11— Agriculture and Natural Resources	<ul style="list-style-type: none"> ▪ Status of distribution of U.S. Department of Agriculture (USDA) Foods for congregate and/or household feeding. ▪ Status of delivery of USDA Disaster Supplemental Nutrition Assistance Program. ▪ Status of procurement and delivery of infant formula and baby food to supplement FEMA's infant/toddler kits ▪ Status of response operations by USDA Food Safety and Inspection Service. ▪ Status of Department of the Interior natural and cultural resources and historic properties response and/or preparation efforts to assist states and/or FEMA. ▪ Status of other ESF #11 operations in support of FEMA/state response efforts. ▪ Limiting factors or shortfalls.
ESF #12— Energy	<ul style="list-style-type: none"> ▪ Status of repair crews; number, type, location. ▪ Current status of electrical power, including number and location of customers without power. ▪ Timetable for power restoration. ▪ Limiting factors or shortfalls. ▪ Provide infrastructure status, as applicable, to include refineries offline, impacts to pumping stations, natural gas and petroleum pipelines, platform status and evacuations, shut in production numbers, and potential impacts to coal transport.
ESF #13—Public Safety and Security	<ul style="list-style-type: none"> ▪ Number of officers, deputies, agents, or others assigned to public safety and security duties. ▪ Identification of agencies actively engaged and number of active personnel from each. ▪ Status of shelter security provided. ▪ Status of responder support Base Camp Security, if provided. ▪ Limiting factors or shortfalls.
ESF #15— External Affairs	<ul style="list-style-type: none"> ▪ Media monitoring reports and situational awareness. ▪ Advance notice and updates on relevant congressional hearings and actions. ▪ Updates from Disaster Survivor Assistance Teams (DSAT) teams, including the status of teams, the areas of deployment, and a summary of field reports, including common needs and observations. ▪ Limiting factors or shortfalls. ▪ Status of communications infrastructure in impacted areas

The NRCC develops and provides situation reports during response operations to provide guidance to all response partners, including incident objectives and priorities; information on operational planning, requirements, and deployment; status and location of resources; and identification of priority action areas for response activities. The NRCC may also convene conference calls or video/teleconferences with one or more of the RRCCs as necessary to gain and maintain shared situational awareness on rapidly developing incidents.

ESF #5 is responsible for coordinating the use of remote sensing and reconnaissance operations, activation and deployment of assessment personnel or teams, and geospatial and geographic information systems (GIS) support needed for response. GIS information strengthens situational awareness of an incident by reconciling unverified information with geospatial and geographical

information. During the early hours of a response and in the absence of verifiable information such as actual on-site surveys or imagery, GIS, computerized predictive modeling, and damage estimation software may be used to develop initial estimates of damage. Situational reports will include analyses from a variety of sources, including weather information and forecasts, computerized models, GIS data mapping, remote sensing sources, and ground surveys to provide a clear shared situational awareness and understanding for response and recovery decision making (see Appendix 3 to Annex B for more information).

A common tool for facilitating situational information exchange is HSIN, which provides secure, real-time information sharing and collaboration tools, including a virtual meeting space, instant messaging, and document sharing. HSIN also enables all states and major urban areas to collect and disseminate information among communities of interest (e.g., emergency management, Federal operations, critical sectors [infrastructure]) during emergency operations to help them communicate, collaborate, and coordinate, regardless of location.

Phase 3a

As the state assumes greater responsibility for the recovery operation, ESF #5 coordinates the demobilization of Federal response resources. Each section of the JFO continues to execute its responsibility until the Federal presence is no longer required by the state and the operation is terminated. Situation reporting and formal briefings should continue through the transition to the recovery phase, although the frequency of both should be gradually reduced.

Coordinating Structure

Many ESFs support the Situational Assessment core capability. The ESFs that perform tasks under this core capability are summarized in Figure B.2-1. Specific tasks conducted by these ESFs are identified in the Tasks by Phase, by ESF section below.

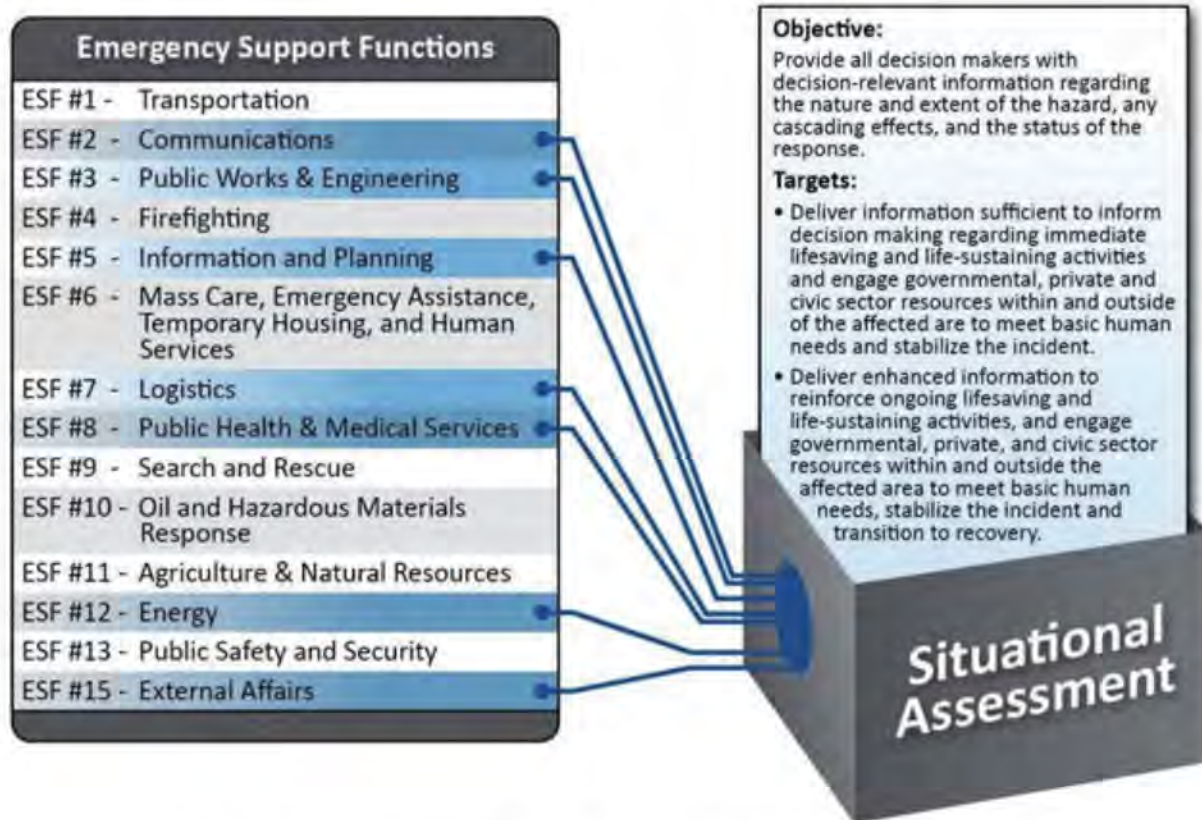


Figure B.2-1: Coordination of ESF Support to Situational Assessment

ESF #5 provides the primary support to the delivery of this core capability, when activated. The Primary Agency overseeing situational assessment operations is FEMA.

Federal departments and agencies serving as Support Agencies to this core capability provide expert personnel to the multiagency coordination centers, as requested, to assist with the delivery of Federal resources and facilitate information exchange. All agencies, as appropriate, identify staff liaisons or points of contact to provide technical and subject matter expertise, data, advice, and staff support for operations that fall within the domain of each agency. Support capabilities of other organizations may be used as required and available.

Federal departments and agencies responsible for delivering science and technology capabilities, including aerial surveys and remotely sensed imagery and data, Earth observation-based data, products, and services (e.g., satellite retrievals, LIDAR topography), meteorological forecasting, hazardous materials and toxicological surveys, and other scientific products and services should continuously ensure situational assessment support activities incorporate with best-available scientific and technological products. Data, imagery, and modeling output from these scientific capabilities should be well integrated with existing ESF core capability delivery. Coordination of advances in science and technology support agency services will be facilitated through Federal interagency entities, such as through coordinated efforts of the Emergency Support Function Leaders Group (ESFLG) and the National Science and Technology Council Subcommittee on Disaster Reduction.

The NOC is the principal operations center for DHS and provides situational awareness in the event of a natural disaster, act of terrorism, or other disaster. The NOC consists of five elements: the NOC Watch; NRCC; National Infrastructure Coordinating Center (NICC); Intelligence Watch and

Warning; and a planning element. The NICC and NRCC are the two operational components; they provide integrated mission support during response operations.

If the incident exceeds a state's capabilities to respond and recover, the RRCC serves as a fully functioning, multiagency coordination center that is staffed with the support of the ESFs until a JFO is stood up. The RRCC enables the successful coordination and delivery of Federal resources and geospatial information as they are deployed towards the affected area. The RRCC staff reviews and adjudicates competing resource requirements.

ESFs that provide support to the delivery of the Situational Assessment core capability are included in the following section.

Situational Assessment Tasks

Mission Objectives

- SA-MO-1: Coordinate existing planning and operational analysis processes across public, private, and nongovernmental sectors to facilitate the timely analysis of situational information. (Supports SA-Critical Task-1)
- SA-MO-2: Collect, distill, and analyze incoming information from all available sources within and outside of the affected area. (Supports SA-Critical Task-1, SA-Critical Task-2)
- SA-MO-3: Develop, validate, and make available decision-relevant information to facilitate situational understanding across public, private, and nongovernmental sectors. (Supports SA-Critical Task-1, SA-Critical Task-2)
- SA-MO-4: Enhance preliminary situational assessments with more comprehensive information collection, validation, and analysis processes to inform decision making. (Supports SA-Critical Task-2)

Phase 1a—Normal Operations

End State: Information collection, analysis, and dissemination systems have been developed in accordance with existing plans. (Supports SA-MO-1)

- Tasks by Phase, by ESF
 - All
 - ♦ Develop and review PSMAAs, memoranda of understanding, and IAAs with Federal departments and agencies to provide supplemental personnel and resources.
 - ♦ Conduct activities consistent with normal day-to-day operations.
 - ♦ Use Federal and regional resources to obtain current situational awareness information.
 - ♦ Maintain coordination with other Federal departments and agencies at both the national and regional levels.
 - ESF #5
 - ♦ Provide mechanisms for vertical and horizontal coordination, communications, and information-sharing on a standardized platform accessible to all partners.
 - ♦ Collect, analyze, and disseminate pertinent information to anticipate requirements to ensure a prompt response.

- ♦ Conduct situational assessments to inform national-level operational planning and to help states to develop unified Federal-state response plans.
- ♦ Maintain 24-hour, seven days a week national situational awareness of potential, developing, or ongoing situations requiring a coordinated Federal response.
- ESF #12
 - ♦ Work with the FEMA Regions, the private sector, and local, state, tribal, territorial, and insular area authorities to develop procedures and products that improve shared situational awareness to effectively respond to a disruption of the energy sector.
 - ♦ Analyze and model the potential impacts to the electric power, oil, natural gas, and coal infrastructures, and determine the effect a disruption has on other critical infrastructure.

Phase 1b—Elevated Threat

End State: Existing information collection, analysis, and dissemination systems have been tested and updated accordingly. (Supports SA-MO-1)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 1c—Credible Threat

End State: Information collection, analysis, and dissemination systems have been coordinated across public, private, and nongovernmental sectors, as appropriate. (SA-MO-1)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 2a—Immediate Response

End State: Preliminary information about the incident has been collected from all available sources. An initial situational assessment of the incident has been performed to determine the scope of Federal support. (Supports SA-MO-2, SA-MO-3)

- Tasks by Phase, by ESF
 - All
 - ♦ Inventory and report to the NRCC the availability and functionality status of all plans, supporting teams, and resources. Identify any deficiencies or limiting factors in planned capability.
 - ESF #2
 - ♦ Provide communications situational awareness and inputs to the DHS COP.
 - ESF #3
 - ♦ Leverage the use of geospatial data sets for the identification and protection of critical infrastructure.

- ESF #5
 - ♦ Use situational assessments to guide the provision of alternate communication methods (e.g., amateur radios), when necessary.
 - ♦ Activate ESF #5 personnel and teams and increase staffing and the operational tempo at the NRCC and RRCC(s). Actions include alert, notification, and situation reporting in coordination with the NOC Watch.
 - ♦ Issue additional activation mission assignments and establish reporting and communications protocols with the activated agencies to conduct situational assessment.
 - ♦ Provide situation reports and other information to the NOC, in accordance with NOC standard operating procedures and protocols.
 - ♦ Coordinate and request geospatial and GIS support needed for incident management.
 - ♦ Determine which ESFs are activated, the size and composition of the organizational structure, the level of staffing at the above facilities, and the key personnel required for the response.
 - ♦ Identify and resolve resource allocation issues identified at the multiagency coordination centers through DHS and FEMA.
 - ♦ Conduct situational assessments by gathering information from all levels of the response and providing an informational link between the NRCC, other Federal department and agency operations centers, and other NOC components.
 - ♦ Make initial contact with the affected state(s) and use situational assessments to identify capabilities and shortfalls as a means of determining initial response requirements for Federal support.
 - ♦ Identify staff liaisons or points of contact to provide situational assessment information from deployed resources and additional technical and subject matter expertise, data, advice, and staff support for operations that fall within the domain of each agency.
 - ♦ Coordinate overall staffing of Federal emergency management activities at multiagency coordination centers.
 - ♦ Coordinate with mitigation and infrastructure protection elements and leverage normal operations modeling and assessments to identify vulnerabilities to key infrastructure and responding capabilities.
 - ♦ Initiate establishment of a Joint Information Center at the incident site.
 - ♦ Activate and initiate deployment actions for field survey support team and remote sensing aircraft to the incident area.
 - ♦ Alert the Headquarters Joint Task Force and designated Initial Response Forces. Be prepared to deploy National Situation Assessment Team(s) to provide rapid mission assessment in coordination with Federal authorities. Identify key Initial Response Forces capabilities as required.
 - ♦ Coordinate and issue requests through the Planning Section staff to organize geospatial data.
 - ♦ Prepare situational reports for leadership detailing the impacts and the potential course of action necessary to mitigate any shortfalls or gaps.

- ♦ Coordinate with the NRCC and the Mapping and Analysis Center (MAC) to anticipate geospatial issues, available resources and requirements, and data collection activities.
- ♦ Coordinate with NRCC, RRCC, JFO, states, and regions regarding critical program policy issues in the impacted areas to assist with response activities.
- ♦ Provide Hazus analysis to the NRCC, RRCC, and JFO upon request.
- ♦ Collect data and perform analysis regarding disaster impacts.
- ♦ Determine prioritization of repairs with affected local, state, tribal, territorial, and insular area entities.
- ♦ Assess the status of national and regional Incident Management Assistance Teams (IMAT).
- ESF #7
 - ♦ Coordinate the preparation of a logistics resources map for senior-level briefings.
 - ♦ Provide a situation update to the Assistant Administrator from the Logistics Management Center.
- ESF #8
 - ♦ Leverage the use of GIS assets (e.g., GeoHealth, which identifies healthcare facilities, emergency medical service facilities) that are located within the incident area and can be used to support response operations.
- ESF #12
 - ♦ Coordinate preliminary damage assessments in the energy sector.
 - ♦ Identify requirements to repair energy systems and monitor repair work.
 - ♦ Report critical energy infrastructure damage and operating status for the energy systems within an impacted area, as well as on regional and national energy systems.
 - ♦ Assess the energy impacts of the incident, and provide analysis of the extent and duration of energy shortfalls.
 - ♦ Initiate plans for environmental radiation monitoring in the event of a radiological release.
- ESF 15:
 - ♦ Conduct media monitoring and analysis and social media listening reports on initial impacts, issues and trends.

Phase 2b—Deployment

End State: Expanding information about the incident has been collected and validated. Situational assessments have been refined to inform command and control structures of the operational environment. (Supports SA-MO-2, SA-MO-3, SA-MO-4)

- Tasks by Phase, by ESF
 - ESF #5
 - ♦ Conduct resource and requirement tracking to determine if there are additional information requirements or resource shortfalls.

- ♦ Transition reporting requirements and lead responsibility for coordination with local, state, tribal, territorial, and insular area jurisdictions from the RRCC to JFO.
- ♦ Share information and intelligence among local, state, tribal, territorial, insular area, and Federal governments and NGOs to support incident response.
- ♦ Conduct situational assessments by gathering information from all levels of the response and update the common operating picture accordingly.
- ♦ Graphically depict sheltering system to include number of occupants compared to the maximum number of occupants.
- ♦ Coordinate with the RRCC to maintain situational awareness on the resourcing and delivery of required resources.
- ♦ Compile and analyze reports from deployed resources from all core capability functions to build shared situational awareness for distribution to all response partners.
- ♦ Assist the Regions in identifying and deploying field teams, Incident Management Workforce personnel, resources, and equipment and technology to capture impact data for post-disaster analysis (e.g., high water marks, wind/water line).

Phase 2c—Sustained Response

End State: As the information flow is standardized, data has been further refined, distilled, and validated, providing decision makers with more comprehensive information necessary to facilitate operational coordination. (Supports SA-MO-3, SA-MO-4)

- Tasks by Phase, by ESF
 - ESF #5
 - ♦ Geospatially tag incident reports and identify blocked evacuation routes.
 - ♦ Maintain shared situational awareness to determine the appropriate time to demobilize Federal resources.
 - ♦ Identify and communicate mitigation opportunities during the response that may speed stabilization and restoration efforts, as well as eliminate or reduce potential future risks.
 - ESF #8
 - ♦ Update estimates/actual reporting of number of patients.
 - ♦ Verify the need for additional monitoring equipment at medical treatment facilities and shelters and ensure necessary logistics actions are initiated.

Phase 3a—Short-term Recovery

End State: Data has been further refined, distilled, and validated, providing decision makers with the information necessary to inform demobilization decisions and transition to recovery. Situational reports on the functionality of critical infrastructure and essential government and commercial services have been disseminated to support the reintegration of survivors. (Support SA-MO-4)

- Tasks by Phase, by ESF
 - ESF #5
 - ♦ Track the ability of government organizations supporting GIS functions to continue mission-essential functions and services.

- ♦ Identify and record mitigation successes and missed opportunities associated with the impending hazards, including mitigation opportunities that may have reduced or eliminated the risk, if taken.
- ♦ Monitor other actual or potential incidents across the country to see how they may affect incident operations or resource requirements.

Administration and Support

All Situational Assessment core capability stakeholders will follow their predefined activation, notification, deployment, and deactivation procedures.

Appendix 3 to Annex B: Geospatial

Purpose

The purpose of this appendix is to describe geospatial support for the delivery of the Planning and Situational Assessment core capabilities.

The Planning (P) critical task and Situational Assessment (SA) critical tasks are as follows:

- **P-Critical Task-1.** Develop operational plans at the Federal level and in the states and territories that adequately identify critical objectives based on the planning requirements, provide a complete and integrated picture of the sequence and scope of the tasks to achieve the objectives, and are implementable within the time frame contemplated in the plan using available resources.
- **SA-Critical Task-1.** Deliver information sufficient to inform decision making regarding immediate lifesaving and life-sustaining activities, and engage governmental, private, and civic sector resources within and outside of the affected area to meet basic human needs and stabilize the incident.
- **SA-Critical Task-2.** Deliver enhanced information to reinforce ongoing lifesaving and life-sustaining activities, and engage governmental, private, and civic sector resources within and outside of the affected area to meet basic human needs, stabilize the incident, and transition to recovery.

Geospatial tools are used to visually depict actual or projected information about resources and the operational environment to inform planning in anticipation of an incident and for post-incident planning. It is often used to integrate assessments, situation reports, and incident notification into a common operating picture and as a data fusion and analysis tool to synthesize many kinds and sources of data and imagery.

Situation

GIS and geospatial mapping products are essential tools for gaining situational awareness during all phases of a disaster. A good map is one that shows relevant information in the most concise and organized manner using the best available data.

- Situational awareness addresses procedures for describing the operational environment, including threats and hazards. This occurs during continuous monitoring of the national situation, so that emerging crises can be analyzed in order to determine the specific nature of the threat and to notify decision makers.¹⁴
- Situational understanding is the product of applying analysis and judgment to relevant information to determine the relationships among the mission and operational variables. Situational understanding is used to assess progress and make execution and adjustment decisions. Situational understanding will change throughout response operations as the event evolves.

Assumptions

General assumptions for the Response FIOP have been identified in the base plan.

¹⁴ For more information, see Joint Publication 5-0: Joint Operation Planning.

Mission

Federal interagency partners will deliver Geospatial Concept of Operations (GeoCONOPS)-developed information sufficient to inform decision making regarding immediate and ongoing lifesaving and life-sustaining activities and engage public and private sector and NGOs' resources within and outside of the affected area to meet basic human needs and stabilize the incident.

Execution

Concept of Operations

The Homeland Security GeoCONOPS is intended to identify and align the geospatial resources that are required to support the National Response Framework (NRF), ESF, and supporting Federal mission partners across the mission areas. The development of the GeoCONOPS for homeland security and emergency management operations ensures that timely and accurate geospatial data is shared across the entire geospatial community, resulting in better informed decision making across all phases of an incident.

The GeoCONOPS community concept is comprised of various response components, each of which performs specific duties supporting emergency management and homeland security. All of these parts link to reduce confusion and inform decision makers in disaster and recovery operations. The intent of the GeoCONOPS is to define roles and responsibilities of groups integral to emergency operations, from local communities (field level) upward to all levels of government.

Phase 1

Federal departments and agencies coordinate with local, state, tribal, territorial, and insular area governments; NGOs; and the private sector, as it applies to their statutory mission, to develop, maintain, or enhance operational plans, guidance, and modeling or remote sensing capabilities. Regional Geospatial Coordinators (RGC) collaborate with local, state, tribal, territorial, and insular area partners to identify additional sources of information and to prioritize areas most likely to be impacted by an incident, based on updated population and demographic data. Predictive modeling is conducted to aid in the identification of capability shortfalls and integrated into response operations planning.

Phase 2

ESF #5 collects, analyzes, processes, and disseminates information regarding the incident to facilitate situational awareness and planning. As event information is collected at the local, state, tribal, territorial, insular area, and Federal levels, additional information is produced and compiled by the geospatial community to support the incident ICP, which covers the essential elements of information, assimilated to inform operational coordination see Appendix 2 of Annex B. Products developed to support the ICP represent a specific period of time and use the U.S. National Grid to maintain a consistent geo-referencing format.

Essential Elements of Information

Immediately following an event, priority is given to the collection of key information on the nature and scope of damages. This data is formally defined as essential elements of information and typically collected under the guidance of an ICP. The essential elements of information contribute directly to situational awareness and revolve around a time-based reporting cycle. The overall list of essential elements of information may vary by a specific event or type, but generally include information such as: disaster boundaries, socio-economic impacts, and status of communications, transportation systems, and critical infrastructure.

The information collection and analysis process evolves through the life cycle of the event. Initially, predictive modeling may provide estimates for an essential element of information, prior to field information becoming available. As response operations progress, essential elements of information will be populated with data gathered from situation reports, on-scene reports, and other informational sources. As priorities shift to sustained response and short-term recovery, the ICP is adjusted to reflect changing requirements and the essential elements of information adjust as the key activities determine what information is essential.

Authoritative Data

For the purpose of the GeoCONOPS, authoritative data owned and/or produced by the Federal entities supporting the NRF is defined as follows:

- **Rational Authority.** Federal departments and agencies are, by default, the “authoritative” sources for the data or services that they produce or for which they have a statutory responsibility.
- **Expert Authority.** Scientifically authoritative data is defined in the realm of the various professions under which the standards and methodology for data are created.

An authoritative data source is the entity trusted because of a subjective belief that it is the “best” or “most accurate” source for a specific data theme. The owner or authoritative source of any geospatial data is responsible for defining the business rules for the access and sharing of that information across the stakeholder community. The data provider should identify restrictions that may inhibit the mission at For Official Use Only level and establish classification at lowest level possible.

The RGC in the RRCC quickly seek to gain full situational awareness of ongoing operations and emerging events to determine the extent and capability of the affected states to manage the incident. Should the incident exceed a state’s capabilities to respond and recover, the RRCC will serve as a fully functioning, multiagency coordination center that is staffed with the support of the ESFs. The RRCC enables the successful coordination and delivery of Federal resources and geospatial information as they flow toward the affected area. The RRCC staff reviews and adjudicates competing resource requirements.

RRCC Transition to IMAT

Prior to an incident, the established relationship with local, state, tribal, territorial, and insular area geospatial coordinators is through the RGC. The RGC supports the IMAT Geospatial Intelligence Unit Leader in establishing relationships with key state geospatial contacts, and is responsible for maintaining these relationships during normal operations, so that they can be activated once an incident occurs. The RGC should be able to provide the following to an IMAT Geospatial Intelligence Unit Leader (or other IMAT Planning Section personnel, as necessary) prior to, or immediately following, the IMAT’s on-scene deployment:

- Contact information for key GIS personnel in the state
- Existing state or local GIS organizations with access to data or imagery, a GIS viewer, and what the process would be for gaining access
- Copies of any GIS products, or unique data, generated by local, regional, and/or state personnel that would support the UCG’s decision-making capabilities.

GIS products and services, those remotely sensed and those developed by GIS, are incorporated into relevant data and products needed to produce event-specific analysis and situational awareness products. Products are distributed to partners through identified information-sharing strategies.

Multiagency geospatial conference calls are conducted to coordinate geospatial activities between Federal interagency partners.

During response operations, GIS products are categorized by damage assessment, lifesaving, and recovery functions.

Phase 3a

GIS products utilized throughout the response are updated to reflect short- and long-term recovery operations. GIS mapping and analysis products support the coordination, community planning, and economic development efforts during the transition from short- to long-term recovery.

Per the IAP, GIS data can inform national, regional, and incident-level personnel by displaying all incident response facilities operating in support of the UCG, as well as other locations of interest.

Lessons learned in the provision of science and technology capabilities, including geospatial assets and associated geospatial data and modeling, should be reflected in an interagency assessment or AAR that evaluates the overall performance of capabilities, coordination structures, and provision of geospatial resources as described in the GeoCONOPS.

Coordinating Structure

The Geospatial Community

Within the geospatial community, five critical components must operate successfully to ensure successful delivery of services. These organizational components are divided by function, as follows:

- Defense Support of Civil Authorities
- Information/Support Services
- Infrastructure
- People
- Operations/Coordination.

Of these, four parts—civil support, information/support services, infrastructure, and people—all collect and analyze information for the fifth part, Operations/Coordination.

Defense Support of Civil Authorities

The Defense Support of Civil Authorities component involves DoD support to civil authorities. DoD provides information identifying the geographic location and characteristics of natural and constructed feature in a given area for disasters throughout the Nation.

The main organizations that provide this information are the National Geospatial Intelligence Agency (NGA), Defense Threat Reduction Agency, and the U.S. Northern Command.

Information/Support Services

The Information/Support Services component provides border, geological, modeling and weather data during a disaster.

The main organizations that provide this data are the Department of Commerce (DOC)/National Oceanic and Atmospheric Administration (NOAA), U.S. Customs and Border Protection, the DHS Office of Cybersecurity and Communications, Defense Threat Reduction Agency, and the USGS.

These departments and agencies employ the Interagency Modeling and Atmospheric Assessment Center (IMAAC) as well as FEMA methodology for estimating potential losses from disasters via the

Hazus software. The DHS IMAAC serves as the coordinating entity for the determination of the most appropriate atmospheric dispersion model for a particular incident for delivery of a single Federal prediction to all responders, for incidents requiring a coordinated Federal Response. IMAAC comprises Federal interagency partners, including DHS, DoD, the Department of Energy (DOE), EPA, DOC/NOAA, the Nuclear Regulatory Commission, and the National Aeronautics and Space Administration.

Infrastructure

The Infrastructure component provides assessment information during an emergency for structures such as buildings, dams, levees, and schools. This group also determines the impact to the local community and its environment.

Key entities making these assessments are: USACE, the U.S. Forest Service, DOE, EPA, USCG, the Department of Transportation, DHS National Protection and Programs Directorate, and FEMA Public Assistance.

People

The People component provides information regarding the types of services survivors receive. These include lifesaving measures, shelter, health-related, legal and employment information. Comprising the People group is: the Department of Justice, HHS, FEMA, and the USDA.

Operations/Coordination

The Operations/Coordination group, having incorporated information and analysis from the other four groups, adapts this data to cover damage assessment, lifesaving, and recovery and mitigation themes. The Operations/Coordination segment is the central access point for Requests for Information and Requests for Assistance.

The primary organizations that gather and distribute this information are the DHS NOC, the NICC, the NRCC, RRCC, and JFOs.

Structures

To ensure access to critical geospatial information and products, personnel must be readily available to support the many entities engaged in incident operations. This level of specific operational support provides shared situational awareness and geospatial tools to the managers of Multiagency Coordination Centers and field facilities.

Geospatial staff and teams typically fall under the Planning Section within NIMS and Incident Command System but may be assigned to Operations or other areas within the NIMS structure once there is an elevated threat, the plans should be updated based on the current situation versus exercises.

An effective operational response will rely heavily on establishing and following a regular operational tempo in concert with interagency partners, and other stakeholders. IAA's Mission Assignments, PSMAs, Memoranda of Understanding, and Memoranda of Agreement will be leveraged during all phases to support surge requirements, in coordination with local, state, tribal, territorial, and insular area authorities.

Collaboration Groups

To enhance information-sharing capabilities across the geospatial community, the standard distributions are:

- The Interagency Remote Sensing Coordination Cell (IRSCC) is a body of remote sensing mission owners with capabilities that enable primary Federal responders to plan, coordinate, acquire, analyze, publish, and disseminate situational knowledge. The IRSCC provides visibility of the remote sensing missions that are the statutory responsibility of the member organizations. The IRSCC Executive Secretariat handles the provision of shared situational awareness through daily reporting and convening the IRSCC Working Group as the IRSCC Coordination Group during response operations.
- The Homeland Infrastructure Foundation-level Data Working Group's Program Partners Working Group, which includes DHS, DoD, NGA, and the USGS, have contributed funding toward a regional force of geospatial analysts and information exchange brokers called Homeland Infrastructure Foundation-level Data to the Regions. These personnel support the Office of Infrastructure Protection field personnel like Protective Security Advisors and Chemical Security Inspectors. Operationally, the Homeland Infrastructure Foundation-level Data to the Regions staff report directly to the Regional Directors throughout Office of Infrastructure Protection located throughout the country, and can provide normal operations data collection and geospatial production support, as well as augmented incident management capabilities for enhanced awareness of Critical Infrastructure status, and the overall Critical Infrastructure Protection mission.

National Operations Center

The NOC is the principal operations center for DHS and provides shared situational awareness for the entire Federal Government, as well as for local, state, tribal, territorial, and insular area entities, as appropriate. The NOC establishes information sharing as detailed in Appendix 2 to Annex B.

National Infrastructure Coordinating Center

The NICC within the National Protection and Programs Directorate coordinates the national program to reduce risks to the Nation's critical infrastructure and to strengthen national preparedness, timely response, and rapid recovery following an incident.

Geospatial and Technical Group

NRCC's Geospatial and Technical Group develops specialized reports, analyzes presentations, and coordinates with other situational awareness functions. The Geospatial and Technical Group identifies and selects operational geospatial information from internal and external databases for integration with specified situational awareness viewers. The group integrates geospatial information from external partners, including but not limited to other Federal departments and agencies, academia, and warning centers; incorporates all relevant data for incident-specific situational awareness and/or geospatial analysis; and provides technical and mapping expertise required to support National Response Coordination Staff members.

Table B.3-1: Geospatial Support Resources

Support	JFO	NOC	NICC	NRCC	RRCC
Operational	Geospatial Intelligence Unit in the JFO provides GIS and remote sensing support to local, state, tribal and Federal government agencies and may be located at or near the incident area of operations or state EOC. Products range from map production to field data collection, as well as: Quick look reports, Spot reports, and Situation reports.	The NOC is focused on gathering threat, incident, and event data, coordinating the enhancement of data, and coordinating to provide situational awareness.	Daily support Quick look reports Spot reports Situation reports	The Geospatial and Technical Group is the primary geospatial production entity for all Federal operations during Stafford Act activations. NGA, USGS, USACE, and other Federal geospatial offices provide geospatial information to the Geospatial and Technical Group through liaison activities as part of the Situational Awareness Group.	Geospatial Intelligence Unit in the planning section provides all regional GIS and remote sensing support. Products range from map production to field data collection.
GIS	The GIS analyst supports JFO incident response operations by coordinating the production of GIS maps and analysis; in support of state EOCs, and other field elements as needed/requested.	The GIS desk in NOC provides geospatial production and geospatial data visualization to support the mission. The GIS desk provides GIS subject matter expertise, imagery, and data requirements to support production capabilities to DHS Office of Intelligence and Analysis. The NOC GIS watch desk serves as a liaison and coordination point with the NGA support team.	The GIS analyst supports NICC during steady state and response operations. The Office of Cyber and Infrastructure Analysis provides support to the NICC. ¹⁵ Base map imagery; event boundaries such as hurricane cones, wildfire perimeters, contamination areas, and significant areas of concern.	The MAC supports NRCC through the GIS coordinator desk. Products include visualization of flood area, modeled hurricane impacts, Hazus outputs, disaster declaration areas, damage locations, and FEMA applicant locations. The MAC addresses ad hoc requests for information related to the event at the headquarters and field levels.	

¹⁵ OCIA was established in 2014 within NPPD to provide critical infrastructure risk analysis, decision support, and modeling capabilities to public and private sector partners

Support	JFO	NOC	NICC	NRCC	RRCC
Remote Sensing	FEMA's Remote Sensing Specialists may be activated in support of the JFO Geospatial Intelligence Unit. Requirements for imagery are submitted to the RGC.	The IRSCC ensures Federal airborne assets and sensors are tasked efficiently.	IRSCC provides post-event imagery collection coordination with NRCC on behalf of NICC and Incident Management Center. Imagery is focused on the impact area.	Located in NRCC, the remote sensing specialist organizes imagery collection and processing through various entities.	Remote sensing requirements are organized by the remote sensing specialist in the Geospatial Intelligence Unit.
Modeling	FEMA's Remote Sensing Specialists may be activated in support of the JFO Geospatial Intelligence Unit. Requirements for imagery are submitted to the RGC.	Chemical, Biological, Radiological, Nuclear, and high-yield Explosives incidents, fires, and other events can create smoke, gas, or particulate plumes. Situational awareness of downwind consequences of such plumes is important. IMAAC serves as the single integration point for modeling, production, and dissemination of Federal dispersion modeling and predictive products, during a coordinated Federal response.	The National Infrastructure Simulation and Analysis Center performs event-driven rapid analysis using a suite of mapping and analysis tools for rapid infrastructure analysis.	The MAC produces Hazards United States-Multi-hazard (Hazardus-MH) runs of record for FEMA and uses established dissemination protocol for sharing standardized products.	Hazardus-MH information is prioritized and utilized to support field-level disaster operations.

Resources

GIS and/or remote sensing products and services to support damage assessments, lifesaving, and recovery GIS mission areas are detailed in the DHS GeoCONOPS.

Refining Remote Sensing Needs to Support Response

While Civil Air Patrol, government departments and agencies, or commercial airborne vendors may already be collecting aerial imagery, the FEMA RGC in the affected area will be responsible for providing the initial remote sensing and other geospatial data requirements in alignment with state/local Requests for Assistance and the Regional Support Plan. The RGC should begin fusing available data and defining collection priorities.

The RGC should use National Weather Service (NWS) and National Environmental Data and Information Service (NESDIS) reporting and satellite pictures and data and LandScan population data, combined with other data sources, to:

- Identify areas of interest
 - Refine/identify areas that are most likely to affect populated areas
 - Prioritize areas of interest based on population/demographic information.
- Areas of interest may be adjusted immediately after a disaster to refine areas not previously identified by the NWS or other agency assessments.

Aerial and Satellite Imagery

Remote sensing is the acquisition of information (typically imagery) from aerial or satellite sensors. Imagery can provide critical information about an event that can be integrated into GIS to produce maps or analytic databases. This information can be operationally exploited by emergency managers and decision makers at all levels of the response structure.

Projected uses include:

- Detecting pollution in or toxic contamination of water and soil
- Assessing the impact of drought on agriculture
- Providing a broad indication of damage
- Assessing levels and patterns of damage within disaster areas
- Assessing scope and extent of debris fields within disaster areas.

Remote Sensing Data Acquisition

Civil Air Patrol imagery, as well as various other publicly-available remote sensing data, can be downloaded using the Hazards Data Distribution System provided by the USGS. Licensed satellite imagery (e.g., Quickbird, SPOT, and IKONOS) and other restricted products are also made available once a user signs up for an account and requests access to the restricted portal. The USGS/Hazards Data Distribution System also catalogs and posts pre-event Moderate-resolution Imaging Spectroradiometer and Landsat for declared disaster and emergency operation areas of interest.

Hazus-MH provides loss estimates for flood, hurricane (wind), and earthquake events. Hazus-MH provides estimates on impact to physical damage to residential and commercial buildings, schools, critical facilities, and infrastructure; economic loss, including business interruption, repair, and reconstruction costs; and social impacts, including estimates of shelter requirements, displaced

households, and population exposed to floods, earthquakes, and hurricanes. Specifically, Hazus-MH provides the following:

- Spatial boundaries of hazard or event
- Damage to essential facilities
- Casualties
- Shelter requirements
- Economic loss.

IMAAC provides interagency coordination to use the most appropriate atmospheric dispersion model for a particular incident and for the delivery of a single Federal prediction to all responders, during a coordinated Federal response. Specifically, IMAAC provides plume projection and lethality and dosage forecasts. During volcanic activity, NOAA/NESDIS will be used for the definitive information regarding ash cloud activity.

Administration and Support

All GIS and remote sensing stakeholders will follow their predefined activation, notification, deployment, and deactivation procedures.

Annex C: Operational Coordination

Purpose

The purpose of this annex is to describe the delivery of the Operational Coordination core capability within the Response mission area.

The Operational Coordination core capability helps to establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities.

The Operational Coordination (OCD) critical tasks are as follows:

- **OCD-Critical Task-1.** Mobilize all critical resources, establish command, control, and coordination structures within the affected community and other coordinating bodies in surrounding communities and across the Nation, and maintain, as needed, throughout the duration of an incident.
- **OCD-Critical Task-2.** Enhance and maintain National Incident Management System (NIMS)-consistent coordination structures to meet basic human needs, stabilize the incident, and transition to recovery.

Operational Coordination directs, organizes, orchestrates, and provides strategic information for the provision of lifesaving activities and resources through established coordinating mechanisms.

Appendices to Annex C describe the details of the conduct of lifesaving and life-sustaining operations that are being conducted in preparation of or support to an incident. The OCD core capability annex synchronizes and supports the effective execution of the other 13 Response core capabilities. Appendix 9 of Annex C depicts the synchronization of these activities.

The core functions of the other annexes within the Response Federal Interagency Operational Plan (FIOP) enable the Operational Coordination core capability.

Situation

A limited understanding of the OCD environment will impact Federal interagency partners' ability to establish and maintain a unified and coordinated operational structure and process to respond to the incident and provide for survivors' needs.

Local, state, tribal, territorial, and insular area governments are functioning and operating from their designated emergency operations centers. Due to the severity and scope of the incident, an immediate request for a Stafford Act declaration from the Governors of the impacted states is granted. The Emergency Management Assistance Compact (EMAC) is in effect and providing immediate state-to-state resource and logistics support, but is unable to fulfill all needs, requiring reliance on the whole community. All coalitions of nongovernmental organizations (NGO) that are able to support response efforts have not been pre-identified, leaving NGOs unaware of the Federal emergency management system and ongoing/planned efforts, yet should be active and engaged.

The delivery of the OCD core capability is contingent upon stakeholders' awareness of their specific roles and responsibilities across all five mission areas, particularly under varied scenarios that may alter lines of authority. Prioritization and adjudication of resources is another key component of OCD, as the allocation of shared resources is dependent upon the priorities of both the operational and political sides of the decision-making structure. These specific risks are expanded upon in greater detail in Appendix 1 to Annex B.

Assumptions

General assumptions for the Response FIOP have been identified in the base plan.

Mission

Federal interagency partners use NIMS to establish a coordination structure by developing a single set of objectives; using a collective, strategic approach; improving information flow and coordination; creating a common understanding of joint priorities and restrictions; ensuring that no department's or agency's legal authorities are compromised or neglected; and optimizing the combined efforts of all agencies under a single plan.

Execution

Concept of Operations

The Federal Government provides varying degrees of response and recovery support to local, state, tribal, territorial, and insular area governments depending on the authorities invoked. The degree of Federal assistance depends on the severity of the incident and the ability of local, state, tribal, territorial, and insular area entities to manage the response to the incident and any associated cascading incidents. Under the Stafford Act, when the primary responsibility for response rests with the Federal Government, the President may issue an emergency declaration and deploy people and resources without a declaration request from a Governor. A whole community approach is used to leverage both governmental and nongovernmental expertise and resources to increase the efficiency and immediacy of support to lifesaving and life-sustaining activities.¹⁶

When possible, Federal interagency partners will utilize agency resources and authorities to prepare for an incident and to initiate appropriate preparatory and mitigating measures to reduce vulnerabilities. Once an incident occurs, the priorities shift from preparedness activities to response activities to save and sustain lives, property, and the environment. Across all mission areas, establishing on-scene safety and conducting lifesaving and life-sustaining activities are the priority.

Phase 1

Local, state, tribal, territorial, insular area, and Federal entities determine existing logistics and resource capabilities, develop all-hazards plans and procedures, and conduct training and exercises to validate existing plans. Federal priorities during this phase include preparing to respond. When there is a warning or credible threat before a major disaster or emergency declaration, the Stafford Act authorizes FEMA to deploy and pre-position Federal response personnel and equipment to reduce immediate threats to life, property, the public, employees, and responder health and safety and to improve the timeliness of its response. Actions are limited to pre-deployment until a declaration is made.

Phase 2

Federal priorities include the immediate deployment of available critical national assets for conducting lifesaving and life-sustaining activities in anticipation of local, state, tribal, territorial, and insular area needs; gaining shared situational awareness to determine the scope of additional Federal

¹⁶ The Tribal Coordination Support Annex to the National Response Framework outlines how Federal response operations are conducted in partnership with federally-recognized tribes. For more information, please see the Tribal Coordination Support Annex.

support; and alerting key personnel, departments, and agencies to assist in saving lives and reducing casualties.

Figure C-1 illustrates the key components of the response process and identifies the interdependency of the Situational Assessment core capability in supporting the coordination of response operations.



Figure C-1: Response Process

Following the initial impacts of an incident, Federal coordination and operations centers, such as the National Response Coordination Center (NRCC) and Regional Response Coordination Centers (RRCC) are activated. The NRCC is activated by the FEMA Administrator, or his or her designee. The RRCC is activated by the Regional Administrator, or his or her designee. Upon activation, these centers immediately notify and activate appropriate on-call response elements for immediate deployment to the affected area. The NRCC, in close coordination with the affected Region(s), begins to push pre-identified teams, equipment, and personnel to the impacted area. Movement of these assets is sequenced to arrive at Incident Support Bases (ISB) in an appropriate order and quantity. The RRCC utilizes the Regional Support Plan to coordinate the deployment of resources to the affected area. Once the Region(s) shifts operational control to the Federal Coordinating Officer (FCO), distribution management may revert to a pull strategy for resource sustainment that coordinates the regional request for commodities prior to sending resources. The lead agency makes decisions regarding the prioritization, movement, and distribution of resources, including adjudication of multiple high-priority resources. Efforts will be made to adhere to applicable plans and procedures in place for resource adjudication, in coordination with planning, and in accordance with shared situational assessment, as appropriate.

Unified Coordination Groups (UCG) may be established following an incident that affects multiple states and/or regions. Comprised of senior leaders representing Federal and state interests and, in certain circumstances, tribal and territorial governments, local jurisdictions, private sector, and/or NGOs, the UCGs focus on providing support to on-scene response efforts and conducting broader support operations that may extend beyond the incident site. Unified Coordination must include robust operations, planning, public information, and logistics capabilities that integrate local, state, and Federal—as well as tribal, territorial, and insular area governments—personnel when appropriate, so that all levels of government work together to achieve unity of effort. The UCG leads the unified coordination staff, where staffing is based on incident requirements. The UCG typically consists of the FCO, the State Coordinating Officer, Federal Disaster Recovery Coordinator, the Recovery Advance Evaluation Team and senior officials from other agencies or organizations with

primary statutory or jurisdictional responsibility—as well as significant operational responsibility for one or more functions of an incident response.¹⁷

The Federal Disaster Recovery Coordinator functions as a deputy to the FCO at the Joint Field Office (JFO) to coordinate Federal recovery efforts on the FCO's behalf. The Federal Disaster Recovery Coordinator is the coordinating lead for Recovery Support Function (RSF) activities related to that specific disaster and provides the leadership and direction that will guide all RSF activities. The FCO and State Coordinating Officer may operate out of an Initial Operating Facility (IOF) until a JFO is activated. The JFO then acts as the primary Federal Incident Management structure in the field (during a multi-state incident, additional JFOs may be opened in any affected state). Personnel from Federal and state-level departments and agencies, other jurisdictional entities, the private sector, and NGOs may be requested to staff various levels of the JFO, depending on the incident management requirements of the incident response. To ensure efficient operations—regardless of overall disaster impact—the JFO is scalable and flexible in required functions, staff, and resources that are employed.

Federal departments and agencies routinely manage the response to incidents under their own statutory authority or under a delegated authority. If a Federal department or agency with primary responsibility and authority for handling an incident requires assistance beyond that identified in existing processes or agreements, that agency may ask the Department of Homeland Security (DHS) to coordinate assistance from other Federal departments and agencies. In this case, the requesting entity will submit a request to the Secretary of Homeland Security through the National Operations Center (NOC), including a summary of the situation, types and amount of resources needed, financial information, and any other appropriate details. Upon approval of the request, the Secretary issues an operations order to the NOC, which coordinates the activation of the appropriate Emergency Support Functions (ESF) through the NRCC.

Phase 3a

Response actions transition to short-term recovery operations (e.g., repopulation of the impacted area) and long-term recovery operations (e.g., ongoing recovery and mitigation activities). The transition to recovery may be initiated and conducted simultaneously with response activities when one or more of the following conditions exist: ESFs are demobilized by the FCO; the state initiates its own recovery plan and/or sets up its own recovery organization; and when it is determined that the recovery needs of the impacted population exceeds local community capabilities.

The JFO is the central coordination point for local, state, tribal, territorial, insular area, and Federal governments for recovery and mitigation assistance. After the JFO closes, ongoing recovery and mitigation activities transition to individual agencies with primary jurisdiction utilizing the mission area coordination structures, as appropriate. Federal partners work directly with their Regional offices to administer and monitor recovery and mitigation programs.

In many incidents, no clear transition exists from one phase to the next, and phases may run concurrently. As such, during incidents that affect multiple states and/or FEMA Regions, different jurisdictions may transition through the phases at various paces depending on the impact to the respective geographical area. The NRF fully transitions to the National Disaster Recovery

¹⁷ The term State Coordinating Officer is used to describe the official appointed by the chief executive of a state, commonwealth, territory, federally-recognized tribe, or insular area to coordinate disaster assistance efforts with those of the Federal Government. Federally-recognized tribes having lands within an affected state can elect to work through the state's State Coordinating Officer or appoint a separate official to serve as the tribe's State Coordinating Officer (sometimes referred to as a Tribal Coordinating Officer) to work directly with Federal partners.

Framework when the disaster-specific mission objectives (MO) of the ESFs are met and all ESFs demobilize.

Coordinating Structure

All ESFs support the delivery of the Operational Coordination core capability. Once the President or responsible department or agency head determines the nature and extent of Federal involvement, the coordinating structure will modify processes and protocols, as necessary, to respond to the specific needs of the incident. The nature of the incident will determine the lead agency. The lead agency is responsible for developing a coordination/authority structure.

The Incident Command System (ICS), part of NIMS, is adaptable for incidents of any type, scope, and complexity, directs on-scene emergency management activities and maintains command and control of on-scene incident operations. The Federal Government uses Multiagency Coordination Systems to coordinate entities to ensure unity of effort for domestic incident management. At the field level, the Federal Government uses ICS structure for JFOs. When other mission areas are involved in response activities, they will integrate into the ICS structure. An overview of the ICS organizational structure is illustrated in Figure C-2.

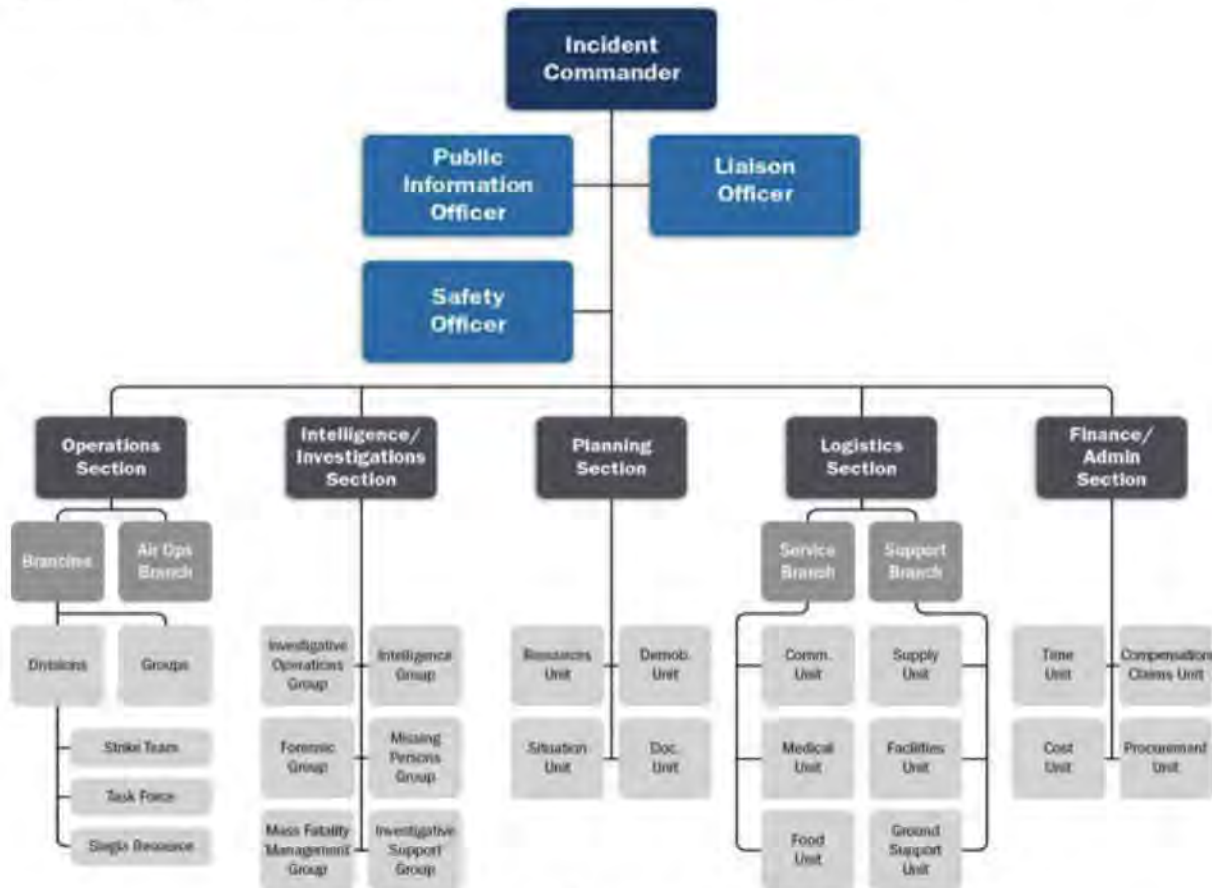


Figure C-2: Incident Command System Structure

Pursuant to Presidential directive, the Secretary of Homeland Security is the principal Federal official for domestic incident management. Pursuant to the Homeland Security Act of 2002, the Secretary is responsible for coordinating Federal operations within the United States to prepare for, respond to, and recover from terrorist attacks, major disasters, and other emergencies. The Secretary shall

coordinate the Federal Government's resources utilized in response to, or recovery from terrorist attacks, major disasters, or other emergencies.¹⁸ As part of these responsibilities, the Secretary coordinates with Federal entities to provide for Federal unity of effort in support of domestic incident management. The Secretary's responsibilities also include management of the broad emergency management and response authorities of FEMA and other DHS components. The Secretary of Homeland Security may monitor activities and activate specific response mechanisms to support other Federal departments and agencies.

All Federal departments and agencies shall cooperate with the Secretary of Homeland Security in executing domestic incident management duties. Figure C-3 depicts this organization by these categories at the local, regional, state, tribal, territorial, insular area, and Federal levels. Detailed information about each category is provided below.

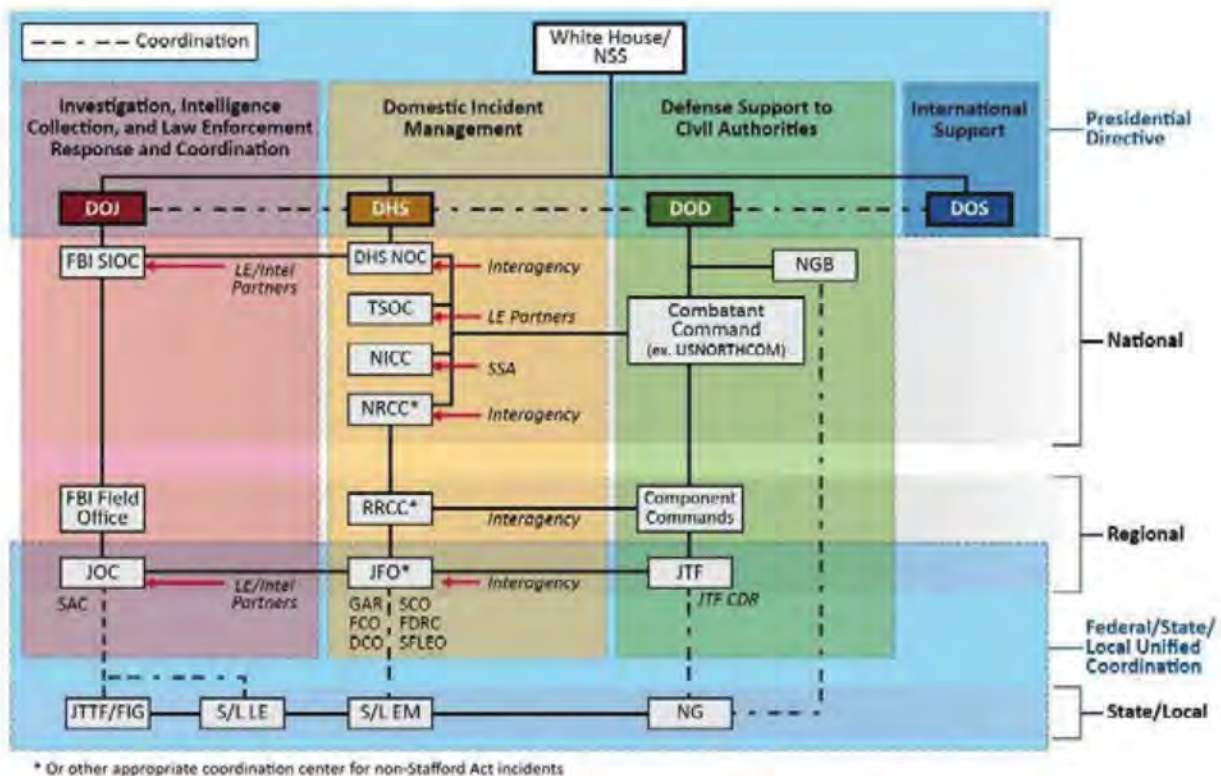


Figure C-3: Domestic Incident Management Coordination Structure

Investigation, Intelligence Collection, and Law Enforcement Response and Coordination

The Department of Justice (DOJ), through the FBI, shall execute lead responsibility for domestic intelligence and counterterrorism investigations, in cooperation with other Federal departments and agencies engaged in activities to protect national security; shall coordinate the activities of the other members of the law enforcement community and, where applicable, the Intelligence Community, to detect, prevent, preempt, mitigate and disrupt terrorist attacks, including those against the Nation's critical infrastructure; shall lead the Federal operational law enforcement response and investigative activities necessary to prevent or resolve imminent terrorist threats or attacks; and has primary responsibility for searching for, finding, and neutralizing weapons of mass destruction within the

¹⁸ Except for those activities that may interfere with the authority of the Attorney General or the FBI Director, as described in PPD-8.

United States and its territories in response to information received through law enforcement, intelligence, or other channels. The FBI organizes the following command and operations centers:

- The Strategic Information and Operations Center (SIOC) acts as the FBI's worldwide Emergency Operations Center (EOC) by: maintaining situational awareness of criminal or terrorist threats, critical incidents, and crises; providing command, control, communications connectivity, and the FBI's common operating picture for managing operational responses; establishing the headquarters command post and developing connectivity to FBI Joint Operations Centers (JOC), led by FBI Special Agents in Charge; and sharing information and intelligence with other EOCs at all levels of government, to include the DHS NOC.
- The JOC is a multijurisdictional interagency investigative and intelligence operations center led by the FBI. The JOC operates only during a crisis situation or for special events that require additional coordination between participating entities. The JOC coordinates and/or directs law enforcement investigations, intelligence, and operational activities in response to a threat or terrorist incident, major criminal investigation, or special event, including a National Special Security Event (NSSE). In order to provide successful investigative case management, the JOC may be activated and made operational at any point in the response to a threat or incident.
- The FBI Special Agent in Charge can establish forward command posts to manage such things as crime scenes, tactical operations, render safe operations, etc., based on the type and number of incident sites.

Defense Support of Civil Authorities

The Secretary of Defense provides defense support to civil authorities for domestic incidents, as directed by the President, or when requested by a Federal department or agency and consistent with military readiness and appropriate under the circumstances and the law.¹⁹ Normally, the Secretary of Defense directs the U.S. armed forces providing support to civil authorities through a Geographic Combatant Command (i.e., U.S. Northern Command and U.S. Pacific Command). A Defense Coordinating Officer (DCO) is assigned to each FEMA region; the DCO coordinates requests for DoD support from the lead Federal agency for response operations.

DCO responsibilities include: Commander of the Defense Coordinating Element (DCE) representing DoD in the affected area, serving as a liaison to local, state, tribal, territorial, insular area, and Federal departments and agencies, reviewing mission assignments, recommending the best military resource for the mission, and providing support to deployed DoD forces.

The U.S. Army Corps of Engineers (USACE) may respond under separate established authorities and as mission-assigned by FEMA. As a Primary or Support Agency, USACE provides assistance directly to FEMA through ESF #3; requests for assistance are not coordinated and processed through the DCO (and assistance is not under the operational control of a Joint Task Force Commander).

The DoD, including USACE, also provides support to other Federal departments and agencies under certain non-Stafford Act authorities, in accordance with DoD policy.

¹⁹ Exception: In response to a request for assistance from a civilian authority, under imminently serious conditions, and if time does not permit approval from higher authority, DoD officials may provide an immediate response by temporarily employing the resources under their control, subject to any supplemental direction provided by higher headquarters, to save lives, prevent human suffering, or mitigate great property damage within the United States. Immediate response authority does not permit actions that would subject civilians to the use of military power that is regulatory, prescriptive, proscriptive, or compulsory. (DoD Directive 3025.18)

Other DoD organizations may have unique agreements for support. For instance, DoD installation commanders may provide support to local jurisdictions under mutual aid agreements, when requested. In addition, the Defense Logistics Agency (DLA) has an interagency agreement with FEMA to provide commodities including fuel to civil authorities responding to disasters.

International Support

The Department of State (DOS) is responsible for all communication and coordination between the U.S. Government and other nations regarding the response to a domestic crisis. DOS is also responsible for managing U.S. Government relations, policies, and activities as related to the international dimension of the crisis. International coordination within the context of a domestic incident requires close cooperation with foreign counterparts, multilateral/international organizations, and the private sector in the United States and abroad. DOS supports DHS and other Federal department and agency efforts by providing knowledge about and engaging with other Nations and in leading and facilitating the international aspects of a domestic incident. The International Assistance System, led primarily by DOS, FEMA, and the U.S. Agency for International Development (USAID), manages the flow of international resources, including government-to-government assistance and assistance from international organizations (e.g., North Atlantic Treaty Organization and the United Nations), into the United States under the NRF for a Presidentially declared major disaster as described under the Stafford Act. Pursuant to Presidential directive, the Secretary of State and DOS have the responsibility to protect national security and U.S. interests and citizens abroad while coordinating across other Federal departments and agencies. The Department of Health and Human Services (HHS) may provide technical expertise for international requests for Public Health, Healthcare, and Emergency Medical Services assets and coordinates with international partners on the acceptance of donations. Some types of international assistance are pre-identified, and bilateral agreements are already established. For example, the USDA/Forest Service and Department of the Interior have joint bilateral agreements with several countries for wildland firefighting support.

Domestic Incident Management

The following operations centers and entities are responsible for the coordination of response operations and integration with other mission areas, as appropriate:

National Level

The NOC is the principal operations center for DHS and shall provide situational awareness, information fusion, and communications in the event of a natural disaster, act of terrorism, or other disaster for protection and consequence management activities. The NOC facilitates Federal coordination, information sharing, and operational coordination with the FBI's SIOC and the DoD's National Military Command Center.

The SIOC is the FBI's headquarters-level central communications center, maintaining redundant and secure communications with all national crisis centers, the FBI Director, the Attorney General, and the President of the United States, regardless of their physical locations. The SIOC acts as the FBI's worldwide EOC by: maintaining situational awareness of criminal or terrorist threats, critical incidents, and crises; providing command, control, communications connectivity, and the FBI's common operating picture for managing operational responses; establishing the headquarters command post and developing connectivity to JOCs; and sharing information and intelligence with other EOCs at all levels of government, to include the DHS NOC.

The National Military Command Center maintains situational awareness on worldwide events for the Secretary of Defense and Chairman of the Joint Chiefs of Staff. It may alert other Federal

departments and agencies to developing terrorist threats and natural crises and coordinate any DoD support required through the designated Combatant Commander.

The NRCC serves as the primary operations center for national incident response and recovery operations, as well as national resource coordination. The NRCC monitors incidents and supports the efforts of Regional and field components. Only issues that cannot be resolved at the RRCC and JFO levels are elevated to the NRCC for resolution. Federal departments and agencies maintain additional operations centers that provide shared situational awareness within their jurisdiction or functional areas and share information with the NRCC (or other entities) in accordance with their statutory responsibilities and authorities. The operation and staffing of these facilities is contingent upon the respective agency's scope and role in the incident response.

The National Infrastructure Coordinating Center (NICC) serves as the primary infrastructure protection entity for incident management coordination during steady-state and incident response activities. During the response to an incident, the NICC provides the critical infrastructure shared situational awareness, which describes the impacts to critical infrastructure, key actions, and concerns reported from the critical infrastructure Sector-Specific Agencies (SSA), as well as infrastructure protection operational actions and decisions. The NICC utilizes the Information Sharing and Analysis Centers to provide a mechanism for coordination and information sharing between government and industry partners.

Private sector organizations contribute to response efforts through partnerships with each level of government. During an incident, key private sector partners have a direct link to emergency managers and, in some cases, are involved in the decision-making process. Communities may not be able to respond effectively to incidents without private sector resources; therefore, strong cooperative relations between government agencies and the private sector are essential. Additional information about private sector resources and services is available in Annex D.

In addition to private sector resources, NGOs provide additional operational coordination support to response operations through the National Voluntary Organizations Active in Disaster (National VOAD) and the American Red Cross. National VOAD, a consortium of approximately 65 national organizations and 55 territorial and state equivalents, allows NGOs to share knowledge and resources to help disaster survivors and their communities. The American Red Cross, chartered by Congress to maintain a system of domestic and international relief, has a legal status of "a Federal instrumentality" and supports the delivery of multiple core capabilities.

Regional Level

Within each of the 10 FEMA Regional Offices (see Figure C-4) is a RRCC. Each RRCC is primarily staffed by FEMA employees who are responsible for the day-to-day monitoring of the situation in the Regional area of responsibility—even when not activated under a disaster. The RRCC expands to become an interagency facility after an incident impacts its area of responsibility. RRCC personnel are the FEMA Regional Administrators' mechanism for executing regional responsibilities.

Operating under the direction of the FEMA Regional Administrator, RRCC personnel assess the situation; coordinate Federal response efforts across JFOs, state EOCs, and fusion centers in their Region after an incident; contribute to the development of shared situational awareness; and maintain connectivity with fusion centers, Federal Executive Boards, and other Federal and state operations and coordination centers until an FCO is deployed and ready to take operational control. Ongoing RRCC operations transition to a JFO once it is established.



Figure C-4: FEMA Regions

When responding to an incident, the NRCC and RRCC are supported by the ESFs, private sector organizations, and NGOs, as appropriate for the size and complexity of the incident. The ESFs are activated at the regional level by the FEMA Regional Administrator.

A JFO is a temporary Federal facility established locally to coordinate operational Federal assistance activities to the affected jurisdiction to provide a central location for coordination of response efforts by the private sector, NGOs, and all levels of government. The RRCC supports the transition of operations to one or more JFOs, but continues to monitor the incident as it progresses. The JFO UCG provides strategic leadership for the JFO and may staff the JFO in part or in full from its own resources, or request support from ESF #5, as required. Some Federal departments and agencies establish incident and area command structures, generally in conjunction with their counterpart state, tribal, and/or local agencies, to carry out the ESF missions.

State and Local Level

At the state level, multiagency coordination occurs within individual state EOCs. The state EOC is the physical location where multiagency coordination occurs. Every state maintains an EOC to manage incidents requiring state-level assistance. A key function of state EOC personnel is to ensure that those who are located at the scene have the resources (e.g., personnel, tools, equipment) they need for the coordinated response. Some states have additional EOCs for coordinating information and resources within a region or area. State EOCs are typically organized by a combination of ESFs or other coordinating structures aligned to disciplines or capabilities. Chief elected and appointed officials are located at the state EOC, as well as personnel supporting core functions under the state's Comprehensive Emergency Management Plan. Many states involve their tribal counterparts within the EOC to ensure that tribal coordinating structures are integrated into the delivery of capabilities and that tribal needs are addressed.

State and major urban area fusion centers serve as focal points within the local and state environment for the receipt, analysis, gathering, and sharing of threat-related information between the Federal Government, local, state, tribal, territorial, insular area, and private sector partners. Fusion centers are owned and operated by local and state entities with support from Federal partners in the form of deployed personnel, training, technical assistance, exercise support, security clearances, and

connectivity to Federal systems, technology, and grant funding. Fusion centers have a close relationship with the FBI Joint Terrorism Task Forces in that they share state and local-developed threat information, including suspicious activity reporting. Fusion centers also coordinate with the FBI JOC when it is operational for incidents involving law enforcement response, counterterrorism, counterintelligence, and criminal investigative activities, as appropriate. The JOC is staffed with a Command Group comprising applicable local, state, and Federal law enforcement and is led by the FBI Special Agent in Charge of an FBI Division. It acts as an interagency command and control center for a response to a credible terrorist threat or incident.

Tribal Coordinating Structures

The Tribal Assistance Coordination Group, or TAC-G, is a Multiagency Coordination group that can be convened to assist federally-recognized tribes during emergencies and disasters, as well as providing information and technical assistance for tribal emergency management programs. The TAC-G is led and managed by the Bureau of Indian Affairs Emergency Management Program. The TAC-G consists of partners from all levels of government (county, local, state, tribal, Federal, etc.) as well as non-profit aid organizations and the private sector.

Conduct of Operations

The Operational Coordination core capability annex synchronizes and supports the effective execution of the other 13 Response core capabilities. The following list indicates the remaining core capabilities and location for their corresponding activities and coordinating instructions:

- Planning. Refer to Annex B
- Public Information and Warning. Refer to Annex C, Appendix 1
- Critical Transportation. Refer to Annex D, Appendix 1
- Environmental Response/Health and Safety. Refer to Annex C, Appendix 3
- Fatality Management Services. Refer to Annex C, Appendix 4
- Infrastructure Systems. Refer to Annex C, Appendix 5
- Mass Care Services. Refer to Annex C, Appendix 6
- Mass Search and Rescue Operations. Refer to Annex C, Appendix 7
- On-scene Security, Protection, and Law Enforcement. Refer to Annex C, Appendix 8
- Operational Communications. Refer to Annex E
- Logistics and Supply Chain Management. Refer to Annex D
- Public Health, Healthcare, and Emergency Medical Services. Refer to Annex C, Appendix 2
- Situational Assessment. Refer to Annex B, Appendix 2.
- Fire Management and Suppression. Refer to Annex C, Appendix 9.

ESFs that provide support to the delivery of the Operational Coordination core capability are included in the following section.

Operational Coordination Tasks

Mission Objectives

- OCD-MO-1: Facilitate a planning, training, and exercising process utilizing NIMS to enable responders to work in a coordinated manner to meet the needs of disaster survivors. (Supports OCD-Critical Task-2)
- OCD-MO-2: Gain and maintain shared situational awareness and understanding through a consistent operational analysis. (Supports OCD-Critical Task-1, OCD-Critical Task-2)
- OCD-MO-3: Establish and maintain command, control, and coordination utilizing NIMS. (Supports OCD-Critical Task-2)
- OCD-MO-4: Mobilize and establish Federal assets within the impacted area to support the Federal command and coordination structure. (Supports OCD-Critical Task-1)
- OCD-MO-5: Facilitate the execution of Response core capabilities across local, state, tribal, territorial, insular area, Federal, private sector, and NGOs. (Supports OCD-Critical Task-1, OCD-Critical Task-2)

Phase 1a—Normal Operations

End State: Federal departments and agencies have utilized NIMS-consistent plans, training, and exercising to ensure a coordinated command structure. (Supports OCD-MO-1)

- Tasks by Phase, by ESF
 - All
 - ♦ Develop and review pre-scripted mission assignments (PSMA), memoranda of understanding (MOU), and interagency agreements (IAA) with Federal departments and agencies to provide supplemental personnel and resources.
 - ESF #5
 - ♦ Pre-designate key Federal officials and identify response organizational structures that could be utilized in response operations (e.g., FCOs).
 - ♦ Coordinate between Federal departments and agencies to strengthen relationships and identify shortfalls.
 - ♦ Review, update, and exercise key personnel rosters with accurate contact information (e.g., JFOs, special teams).
 - ♦ Maintain effective communications by updating point of contact lists, verifying video teleconference and teleconference capabilities, and testing information systems.
 - ESF #8
 - ♦ Enhance the preparedness and resiliency of health and medical systems, as well as communities through preparedness grants, mitigation efforts, readiness guidance, and support in planning, training, and exercises.

Phase 1b—Elevated Threat

End State: Situational reports have been analyzed and addressed to plan for the potential activation of local, regional, state, tribal, territorial, insular area, and Federal coordination structures. (Supports OCD-MO-2)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 1c—Credible Threat

End State: Continue to analyze and assess situational reports for the potential activation of local, regional, state, tribal, territorial, insular area, and Federal coordination structures. (Supports OCD-MO-2)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 2a—Immediate Response

End State: The NOC has been activated, and preliminary situational assessment has begun. Federal response personnel have been alerted for deployment. (Supports OCD-MO-2, OCD-MO-3, OCD-MO-4)

- Tasks by Phase, by ESF
 - All
 - ♦ Identify Federal emergency assets and capabilities available for deployment.
 - ♦ Conduct national-level operational planning with the respective region(s) to develop unified Federal response plans.
 - ♦ Establish coordination and planning processes with other Federal departments and agencies at the national and regional levels.
 - ♦ Activate continuity of operations plans.
 - ESF #1
 - ♦ Implement appropriate air traffic and airspace management measures.
 - ESF #5
 - ♦ Employ mitigation, infrastructure protection, and private sector expertise amid the incident to inform decisions.
 - ♦ Detect and resolve resource allocation issues identified at the multiagency coordination centers.
 - ♦ Coordinate activation of ESFs, the size and composition of the organizational structure, the level of staffing, and the key personnel required for the disaster response.
 - ♦ Establish a Federal support infrastructure in the affected region or state in anticipation of requirements for hazard mitigation, response, and recovery.
 - ♦ Conduct resource allocation and tasking through the multiagency coordination center using mission assignment process.
 - ♦ Communicate with the affected region and RRCC and convene periodic video teleconferences with all appropriate parties to coordinate Federal and state operations.

- ♦ Assign and/or deploy staff to the NRCC and the RRCC(s).
- ♦ Provide situation reports and other information, as requested, to the NOC, in accordance with NOC standard operating procedure(s) and protocols.
- ♦ Maintain accountability of all deployed Federal supplies and resources.
- ♦ Coordinate with the RRCC(s) to maintain shared situational awareness and understanding on the resourcing and delivery of required resources.
- ♦ Provide an informational link between the NRCC, RRCC, other Federal department and agency operations centers, and other NOC components.
- ♦ Engage the private sector and NGOs to determine resource availability within the impacted area.
- ♦ Coordinate with local, regional, state, tribal, territorial, insular area, and Federal resources to conduct a rapid needs assessment of the affected area.
- ♦ Determine the need to activate Federal resources in advance of formal requests for assistance.
- ♦ Develop initial orders (e.g., Warning Order, Prepare to Activate/Deploy Order, and Operations Order).
- ♦ Activate ESF #5 personnel and teams and increase staffing and the operational tempo at the NRCC and RRCC(s), as necessary; actions include alert, notification, and situation reporting in coordination with the NOC Watch.
- ♦ Coordinate overall staffing of Federal emergency management activities at multiagency coordination centers.
- ♦ Issue activation mission assignments to other Federal departments and agencies, and establish reporting and communications protocols with the activated agencies.
- ♦ Activate the Incident Communications Emergency Plan.
- ♦ Activate the National Incident Communications Conference Line (NICCL) and establish and maintain lines of communication with state authorities for incident venues.
- ♦ Activate the NRCC (including Transportation Movement Coordination Unit) and RRCCs with incident oversight.
- ♦ Conduct interagency conference calls and develop an initial communications strategy and plan.
- ♦ Activate the International Assistance System through DOS and alert USAID/Office of U.S. Foreign Disaster Assistance.
- ♦ Consolidate requests for information at the national-level and track response deadlines through the Homeland Security Information Network (HSIN).
- ♦ Establish a national operations tempo (i.e., incident reporting timeline) in coordination with the regions.
- ♦ Initiate daily NRCC video teleconferences.
- ♦ Draft an initial National Support Plan.
- ♦ Implement the Incident Information Collection Plan.

- ♦ Submit requests for surge account funding to begin mobilizing and deploying personnel and equipment, as necessary.
- ♦ Provide technical assistance on mission assignment eligibility to the RRCC as requested.
- ♦ Coordinate and request geospatial and geographic information system (GIS) support needed for incident management.
- ♦ Maintain a link between field components until an IOF or JFO are established.
- ♦ Process gubernatorial requests for major disaster or emergency declarations for all affected states.
- ♦ Review and implement (resource support in accordance with commodity resource prioritization matrix) approved plan based upon the incident.
- ♦ Alert the General Services Administration's (GSA) Office of Mission Assurance, who in turn will notify the Federal Acquisition Service, Public Building Service, and the Senior Emergency Management Team.
- ♦ Schedule the Distribution Management Strategy Working Group with partners.
- ♦ Initiate deployment actions for the DCO and supporting DCE to the IOF or JFO.
- ♦ Initiate alert and notifications to American Red Cross disaster staff and senior leadership.
- ESF #6
 - ♦ Support established reception processing sites with needed evacuee services and assist with coordinating transportation assets to transport evacuees from the reception centers to general population shelters
 - ♦ Coordinate with National VOAD and NGO partners to provide personnel and equipment to support response.
 - ♦ Deploy American Red Cross leadership and coordinate organization-wide availability and recruitment of disaster workers.
- ESF #7
 - ♦ Establish required field facilities (e.g., JFO, Joint Information Center [JIC]) and arrange for supplies and equipment to support Federal activities related to the management of an incident.
 - ♦ Activate and deploy Life Support Vehicles and Mobile Emergency Response Support (MERS) Emergency Operations Vehicles to the affected area to establish a temporary operating location for the FCO and support staff.
 - ♦ Coordinate with ESFs for infrastructure damage assessments.
 - ♦ Request space requirements from all partners.
 - ♦ Source vendors and/or request ESF mission assignments to fulfill sustainment, replenishment, and transportation of all requirements.
 - ♦ Confirm reservists and transportation staffing levels/operational capabilities with the increase of NRCC staffing and operational levels.
 - ♦ Deploy GSA leasing specialists in regions to procure JFOs and other facilities through the Public Building Service, as requested.

- ♦ Notify vendors of incident and possible requests for support through the Federal Acquisition Service, as required.
- ♦ Provide Federal land availability in disaster area, as required.
- ♦ Modify all PSMAAs into mission assignments for submission.
- ESF #8
 - ♦ Activate the Secretary of Health and Human Services' Emergency Management Group and the HHS/Office of the Assistant Secretary for Preparedness and Response Incident Response Coordination Team (IRCT).
 - ♦ Initiate deployment actions for IRCT and medical response teams and supply caches.
 - ♦ Notify FEMA and other ESF #8 partners as required.
 - ♦ Provide professional and technical assistance for behavioral health, environmental health, food safety and defense, Public Health, Healthcare, and Emergency Medical Services.
 - ♦ Appoint a Federal health official as the HHS representative to the JFO.
 - ♦ Provide professional and technical assistance for behavioral health, environmental health, food safety and defense, Public Health, Healthcare, and Emergency Medical Services ESF #8 functional areas of responsibility.
- ESF #10
 - ♦ Activate ESF #10 at the regional and national level to provide coordination, technical assistance, and response for oil/hazardous materials releases.
- ESF #11
 - ♦ Assist the Resource Management Group, through U.S. Department of Agriculture (USDA), to determine requirements for evacuating the affected population/pets from impacted areas.
 - ♦ Gather USDA Foods' inventories in affected area and share with ESF #6.
 - ♦ Facilitate whole community multiagency coordination with NGOs (e.g., Heritage Emergency National Task Force) for protection of natural and cultural resources and historic properties.
- ESF #12
 - ♦ Coordinate with the state emergency management offices in communicating fueling locations for emergency responders.
- ESF #15
 - ♦ Deploy initial ESF #15 personnel to NRCC, RRCC, and JFO/IOF.
 - ♦ Hold NICCL conference calls for interagency ESF #15 coordination.
 - ♦ Hold State Incident Communications Coordination Line calls for state-to-state and Federal/state ESF #15 coordination.
 - ♦ Stand up National Business Emergency Operations Center (NBEOC) and hold NBEOC coordination calls with private sector partners to identify initial impacts and needs.

Phase 2b—Deployment

End State: Based on shared situational awareness and operational analysis, the adjudication, prioritization, and allocation of resources and personnel have been coordinated through the lead agency's coordinating structure. Personnel and resource deployment has been initiated. (Supports OCD-MO-2, OCD-MO-3, OCD-MO-4)

- Tasks by Phase, by ESF
 - ESF #1
 - ♦ Identify temporary alternative transportation solutions to be implemented when primary systems or routes are unavailable or overwhelmed.
 - ♦ Coordinate regulatory waivers, exemptions, and permits.
 - ESF #3
 - ♦ Provide coordination, response, and technical assistance to support the rapid recovery and reconstitution of critical waterways, channels, and ports.
 - ♦ Provide structural specialist expertise to support inspection of mass care facilities and urban search and rescue (US&R) operations in coordination with ESF #9.
 - ESF #4
 - ♦ Provide radio communications systems to support firefighters, law enforcement officers, and incident response operations.
 - ♦ Provide command, control, and coordination resources, to include Incident Management Teams, Area Command Teams, and Multiagency Coordination Group support personnel, to local, state, tribal, territorial, insular area, and Federal departments and agencies.
 - ESF #5
 - ♦ Analyze, prioritize, adjudicate, and allocate resources to identify and employ Federal resources to support operations.
 - ♦ Engage in incident action, current, and future planning functions in coordination with the other ESFs engaged in the operation and with those who are operating under department and agency statutory authorities.
 - ♦ Activate and deploy national and regional Incident Management Assistance Teams (IMAT) and other necessary teams to the affected area to establish an IOF/JFO and to begin coordination of the Federal response.
 - ♦ Activate and deploy additional Federal assets and personnel, when requested and approved.
 - ♦ Activate and deploy the Movement Coordination Center in coordination with state(s).
 - ♦ Activate and coordinate the deployment of the FEMA/Logistics Management Directorate (LMD) Fly Away Team.
 - ♦ Send qualified representatives to staff interagency EOCs (e.g., FBI SIOC, NRCC) as rostered or directed.
 - ♦ Identify and disseminate national-level, incident-specific essential elements of information to the HSIN.

- Prepare and issue ESF #3 pre-declaration PSMA for debris removal and temporary power.
- Activate and deploy USACE ESF #3 Team Leaders and Assistant Team Leaders to the NRCC, RRCC, and JFOs (once established).
- Review regional recommendations for Major Declaration and Preliminary Disaster Assessments.
- Prepared to deploy a USAID Liaison Officer to the NRCC, if required.
- Deploy Logisticians and Field Officers to the JFO and/or Mobilization Center to assist with matching commodity donations from international donors to consignees, if required.
- ESF #6
 - Support the mobilization and implementation of mechanisms to track the movement of evacuees, resources, household pets, service and assistance animals, medical equipment, and luggage.
- ESF #8
 - Deploy IRCT, response teams, and supplies, and provide liaisons to Federal, regional, and state emergency operations centers and JFOs.
- ESF #9
 - Coordinate the resolution of conflicting operational demands for search and rescue (SAR) response resources.
- ESF #10
 - Deploy ESF #10 personnel to response venues as needed, including the NRCC, RRCC, JFO, state/local EOCs, and affected area. As ESF #10 responders arrive on-site, establish incident/unified command structures.
 - Coordinate with FEMA and local, state, tribal, territorial, and insular area officials to establish high-priority response objectives and needs.
- ESF #11
 - Facilitate whole community multiagency coordination with NGOs for animal response activities.
 - In coordination with ESF #6, provide USDA Foods and infant formula and baby as needed as requested. Review state requests to operate a D-SNAP (Once approved by USDA Foods and Nutrition Service, a D-SNAP is usually implemented in Phase 3a, Short-term Recovery.)
 - Facilitate whole community multiagency coordination with NGOs (e.g., Heritage Emergency National Task Force) for protection of natural and cultural resources and historic properties.
- ESF #12
 - Serve as the Federal point of contact with the energy industry for information sharing and requests for assistance from private and public-sector owners and operators.

- ESF #15
 - ♦ Coordinate ESF #15 actions, including messaging and staffing, with state and Federal partners.

Phase 2c—Sustained Response

End State: Initial Federal resources have been distributed to the ISB, the JFO has been established, and IMATs have conducted necessary operations for the initial support of basic needs to disaster survivors. Response operations across the impacted area have been coordinated in accordance with NIMS. (Supports OCD-MO-2, OCD-MO-3, OCD-MO-4, OCD-MO-5)

- Tasks by Phase, by ESF
 - ESF #1
 - ♦ Provide longer-term coordination of the restoration and recovery of the affected transportation systems and infrastructure, if required.
 - ESF #5
 - ♦ Coordinate the demobilization of Federal assistance. Each section of the JFO continues to execute its responsibility until the Federal presence is no longer required by the state and the operation is terminated.
 - ♦ Deploy continuity support teams to assist in reconstitution of critical government facilities and services.
 - ESF #6
 - ♦ Support the management, operation, consolidation and closing of congregate and non-congregate facilities.
 - ♦ Coordinate with local, state, tribal, territorial, insular area governments, and NGOs to facilitate the return of evacuees to their pre-disaster or alternate locations.
 - ♦ Develop an initial temporary housing strategy to transition survivors from congregate to non-congregate alternatives and provides relocation assistance or interim housing solutions for households unable to return to their pre-disaster residence.
 - ♦ Identify housing resources from the private sector and other Federal departments and agencies available to disaster survivors.
 - ESF #8
 - ♦ Transport seriously ill or injured patients and medical needs populations from casualty collection points in the impacted area to designated reception facilities, utilizing the National Disaster Medical System (NDMS) and the National Ambulance Contract, as required.
 - ♦ Coordinate the Federal response in support of emergency triage and pre-hospital treatment, patient regulation, and tracking.
 - ESF #10
 - ♦ Coordinate with FEMA and local, state, tribal, territorial, and insular area officials, to provide oil/hazardous materials response.

- ESF #11
 - ♦ Assist with critical needs assessments for animals, including household pets, service and assistance animals, and provide technical support for animal response needs and activities including evacuation support and emergency animal sheltering.
 - ♦ Facilitate whole community multiagency coordination with NGOs (e.g., Heritage Emergency National Task Force) for protection of natural and cultural resources and historic properties.
- ESF #15
 - ♦ Coordinate with the affected state(s) to identify community leaders (e.g., grassroots, political, religious, education, business, cultural, ethnic) and neighborhood advocacy groups to assist in the rapid dissemination of information, identify unmet needs, establish an ongoing dialogue and information exchange, and facilitate collaborative local, state, tribal, territorial, insular area, and Federal planning and mutual support for disaster response.

Phase 3a—Short-term Recovery

End State: Coordination elements are transitioning to long-term recovery operations and focus on reintegration of survivors and restoration of basic services. (Supports OCD-MO-2, OCD-MO-3)

- Tasks by Phase, by ESF
 - ESF #5
 - ♦ Deactivate selected ESFs that are no longer required to support operations.
 - ♦ Close out mission assignments and process invoices of other Federal departments and agencies.
 - ♦ Review after action reports and revise plans and procedures accordingly.
 - ♦ Archive mission assignments and historical files/records maintained during the incident.
 - ♦ Coordinate with other Federal departments and agencies to assess lessons learned for future planning requirements.

Administration and Support

Federal personnel are activated through authorized channels, according to standard operating procedures developed by each responding Federal department or agency.

In a Stafford Act incident, FEMA will initiate mission assignments to task other Federal departments and agencies to provide immediate, short-term emergency response assistance. Federal departments and agencies cannot be reimbursed for costs incurred while performing work under their disaster assistance authorities independent of the Stafford Act. Refer to the NRF and Incident Annexes for more detailed information.

For non-Stafford Act incidents, Federal departments and agencies may utilize Federal-to-Federal support by executing inter/intra-agency reimbursable agreements, in accordance with applicable authorities. Federal departments and agencies providing mutual aid support may request reimbursement from the requesting agency for eligible expenditures, consistent with provisions of the Economy Act, unless other statutory authorities exist.

Several Federal departments and agencies have the authority to declare specific types of disasters or emergencies or to undertake response actions without a Stafford Act declaration. These authorities may be exercised independently of or as a component of a Federal response coordinated by the Secretary of Homeland Security under Presidential directive. Table C-1 includes examples of scenarios in which specific Federal departments and agencies, other than DHS, have the responsibility for coordinating response activities.

Table C-1: Examples of Other Federal Departments and Agency Authorities²⁰

Scenario	Department/Agency	Authorities
Agricultural and Food Incident	USDA	<p>The Secretary of Agriculture has the authority to declare an extraordinary emergency and take action due to the presence of a pest or disease of livestock that threatens livestock in the United States. (7 U.S.C. § 8306 [2007]).</p> <p>The Secretary of Agriculture also has the authority to declare an extraordinary emergency and take action due to the presence of a plant pest or noxious weed whose presence threatens plants or plant products of the United States. (7 U.S.C. § 7715 [2007]).</p>
Public Health Emergency ²¹	HHS	<p>The Secretary of Health and Human Services has the authority to take actions to protect the public health and welfare, declare a public health emergency and to prepare for and respond to public health emergencies. (Public Health Service Act, 42 U.S.C. § 201).</p>
Oil and Hazardous Materials Spills	Environmental Protection Agency (EPA) or U.S. Coast Guard (USCG)	<p>EPA and USCG have the authority to take actions to respond to oil discharges and releases of hazardous substances, pollutants and contaminants, including leading the response. (42 U.S.C. § 9601, et seq., 33 U.S.C. § 1251 et seq.) The EPA Administrator and Commandant of USCG²² may also classify an oil discharge as a Spill of National Significance and designate senior officials to participate in the response. (40 C.F.R. § 300.323).²⁴ Other Federal departments and agencies also have certain response authorities under the same statutes, which have been delegated by the President in Executive Orders 12580 (Jan. 23, 1987, 52 F.R. 2923, as amended) and 12777 (Oct. 22, 1991, 56 F.R. 54757, as amended).</p>

²⁰ These authorities may be exercised independently of, concurrently with, or become part of a Federal response coordinated by the Secretary of Homeland Security, pursuant to Presidential directive.

²¹ A declaration of a public health emergency may make available any funds appropriated to the Public Health Emergency Fund or others see <http://www.phe.gov/Preparedness/support/secauthority/Pages/default.aspx> for more.

²² See ESF #10 and the Oil/Chemical Incident Annex for more information on these authorities.

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Appendix 1 to Annex C: Public Information and Warning

Purpose

The purpose of this annex is to describe the Public Information and Warning core capability.

The Public Information and Warning core capability delivers coordinated, prompt, reliable, and actionable information to the whole community through the use of clear, consistent, accessible, and culturally and linguistically appropriate methods to effectively relay information regarding any threat or hazard and, as appropriate, the actions being taken and the assistance made available.

The Public Information and Warning (PI) critical tasks are as follows:

- **PI-Critical Task-1.** Inform all affected segments of society by all means necessary, including accessible tools, of critical lifesaving and life-sustaining information to expedite the delivery of emergency services and aid the public to take protective actions.
- **PI-Critical Task-2.** Deliver credible messages to inform ongoing emergency services and the public about protective measures and other life-sustaining actions and facilitate the transition to recovery.

Situation

The delivery of timely, credible information and warnings are essential for providing the public with lifesaving and life-sustaining information prior to, during, and following a catastrophic incident.

Communications infrastructures will be severely impacted and traditional methods of communication with responders and survivors may be unavailable. The ability to receive and disseminate information to responders and survivors (including individuals with disabilities, those with limited English proficiency (LEP), and others with access and functional needs), obtain situational awareness and understanding, and develop and distribute accurate and timely warnings will be severely impacted.

The timely restoration of the communications infrastructure is critical to saving and sustaining lives. Effective risk communications guide the public, news media, and other groups in responding to an incident and adhering to public safety measures.

Risk communications principles are based on actions that build trust including:

- Making accurate public announcements
- Communicating in a candid manner
- Utilizing easy to understand, comprehensive, factual, and accurate information that is accessible to all audiences, and being consistent about risk.

Successful delivery of information and warnings requires coordinated pre-incident communications planning at the local, state, tribal, territorial, insular area, and Federal levels to ensure credible information is developed and disseminated to all segments of the public, including individuals with access and functional needs, such as individuals with disabilities, those from religious and racial and ethnically diverse backgrounds, and people with LEP in a timely manner. Public responsiveness to information and warnings is significantly enhanced through pre-incident awareness of basic preparedness and response measures.

Assumptions

General assumptions for the Response Federal Interagency Operational Plans (FIOP) have been identified in the base plan.

Mission

Federal interagency partners will provide critical lifesaving and life-sustaining information to emergency services and all segments of society, by any means necessary, while facilitating a transition to recovery.

Execution

Concept of Operations

Phase 1

Federal messaging focuses on preparedness information and activities, including: lifesaving messages required to protect survivors immediately following an incident; delivery of final preparedness actions and encouragement for individuals to be prepared to be self-sufficient for up to 72 hours following an incident; defining the Federal response; and supporting local, state, tribal, territorial, and insular area entities' instructions related to a specific threat or hazard. Messaging is also developed to inform the general public on what should be done prior to, during, and following an incident, including: making a disaster supply kit; having a family emergency plan; and visiting <http://www.ready.gov> for additional information and resources.

Pre-scripted informational releases are developed for multiple audiences and/or incidents such as the response to an improvised nuclear device or the proper procedure for boiling water after an incident. Pre-scripted informational releases are produced in multiple languages and are tailored to meet the requirements of accessible modes to allow delivery to individuals with access and functional needs, such as individuals with disabilities and are crafted with attention to psychological and behavioral considerations to reduce stress and promote effective decision making.

Phase 2

The Federal Emergency Management Agency's (FEMA) external affairs resources are employed to conduct sustained operations in support of the FCO and the JFO. External affairs resources provide accurate, coordinated, and timely information to the intended audience, including governments, media, the private sector, and the local community. A Strategic Communications Plan is developed to support the Incident Action Plan (IAP), and a unified local, state, tribal, territorial, insular area, and/or Federal response message is established to include media access to responders, visuals, and transparency in operations.

Strategic direction for public information and warning activities originates from the White House Director of Communications, DHS component Directors, ESF #15 leadership, and other Federal department and/or agency leadership. ESF #15 integrates the following components: JIC, Congressional Affairs (CA), Intergovernmental Affairs (IGA), Planning and Products, and the private sector to ensure members of the whole community receive key public information and warnings.

Public information and warning activities are implemented in coordination with the DHS Office of Public Affairs (OPA), components of the NOC, and the Domestic Resilience Group, as well as the

FBI JOC and SIOC, as appropriate.²³ OPA's Domestic Communication Strategy, a dynamic, evolving strategy that includes Federal department and/or agency options and actions, is activated in response to a terrorist incident.

Public information and warnings are disseminated through a range of mechanisms, including formats for individuals with disabilities, LEP populations, and others with access and functional needs. These mechanisms are further described in the [Communications Resources](#) section of this appendix.

Phase 3a

During the transition to recovery, public messaging focuses on the availability of Federal disaster recovery assistance programs, rebuilding damaged infrastructure in affected areas, and completing the transition from response to recovery. During the Federal recovery support operation, all public information and communications are coordinated through ESF #15 (which supports all RSFs).

Coordinating Structure

All ESFs support the delivery of the Public Information and Warning core capability. Pursuant to Presidential directive, the Secretary of Homeland Security ensures that, as appropriate, incident information is prepared and disseminated to the public.

ESF #15 is the means by which the Federal Government will conduct external affairs operations during an incident requiring a coordinated Federal response, as directed by the NRF. ESF #15 coordinates Public Affairs, CA, IGA (local, state, tribal, territorial, and insular area), and the Private Sector offices through External Affairs.

FEMA is the Primary Agency to implement ESF #15 and occupies multiple leadership positions in the field, particularly during a natural disaster. Lead roles for the incident are considered in accordance with the NRF. Special consideration is noted for the following:

- The U.S. Secret Service leads external affairs and ESF #15 during NSSEs. These incidents frequently involve highly sensitive security operations where external affairs strategy and Federal visibility must be protected to ensure the success for the operation.
- During a terrorist incident, a JFO may be established. Similarly, the FBI will establish a JOC within its affected field divisions. In the case of suspected acts of terrorism, or other criminal activity, the Attorney General of the United States and the Secretary of Homeland Security will advise the President of public messaging options. Information pertaining to the incident, perpetrators, threat, crime scene, number of survivors, or other information directly related to the investigation and corresponding intelligence gathering will come from the FBI's JOC. The local FBI Special Agent in Charge, the Director of the FBI, and the Attorney General of the United States, in conjunction with those local, state, tribal, territorial, and insular area law enforcement components of the Unified Command structure, will release information as appropriate. Unauthorized releases may impact ongoing counterterrorism and law enforcement operations, place responders and the public at risk, and impact later prospective judicial actions.
- During CBRNE incidents requiring a coordinated Federal response, the White House Office of Communications would likely provide strategic communications guidance and maintain overall authority over public information and warning activities. However, urgent public safety messages that are necessary to immediately save lives may be pre-authorized by specific guidance. For example, to save lives during a nuclear incident, upon receiving Presidential authorization, the

²³ In the case of imminent terrorist threats and attacks, see the Terrorism Incident Law Enforcement and Investigation Annex and national policy for additional coordination mechanisms.

FEMA Operations Center might use elements of the Integrated Public Alert and Warning System (IPAWS) and other means to send public safety messages. The Nuclear Regulatory Commission (NRC) is the coordinating agency for security and resilience relative to incidents involving facilities and materials licensed by the NRC. The Department of Energy (DOE) is the coordinating agency for security and resilience relative to incidents involving transportation of radioactive materials shipped by or for DOE.

- DoD is the coordinating agency for security and resilience relative to incidents involving nuclear weapons in DoD custody.
- The National Aeronautics and Space Administration is the coordinating agency for security and resilience relative to incidents involving space vessels carrying nuclear materials.
- EPA and USCG On-scene Coordinators (OSC) responding to oil and hazardous materials (including CBRNE) incidents may also need to communicate with the media and/or public on tactical operations and matters affecting public health and safety directly from the scene, particularly during the early stages of the emergency response.
- The USDA is the coordinating agency for security and resilience relative to animal or plant health emergencies.

DHS National Joint Information Center

The National JIC serves as the Federal incident communications coordination center and is staffed by incident communications response personnel that rapidly mobilize to coordinate the Federal external communications effort. The National JIC coordinates with, and supports, the following:

- White House Office of Communications
- Secretary of Homeland Security
- NOC
- Crisis Action Team
- NRCC
- NICC
- FCO
- JFO
- ESF #15 staff.

Subject to the nature of the disaster, all NRF departments, agencies, and organizations may be a part of the external affairs operation. DHS Public Affairs will coordinate and solicit requests for staffing support with the Federal departments and agencies during an incident.

For incidents where FEMA or other agencies have the lead role, an ESF #15 Operations Director may be delegated to lead the Federal interagency team. The ESF #15 organization is prescribed within the NRF and is intended to be scalable and flexible to support incident requirements. For Stafford Act incidents, the organization may be modified by the FCO and ESF #15 External Affairs Officer (EAO). The Secretary of Homeland Security, as the principal Federal official for domestic incidents, may in the cases of a catastrophic or a cascading incident, assign ESF #15 Deputy EAOs to each impacted state and/or region for coordination.

Listed in Figure C.1-1 is a notional organizational chart and process flow for ESF #15 during an incident requiring a coordinated Federal response with an FCO.

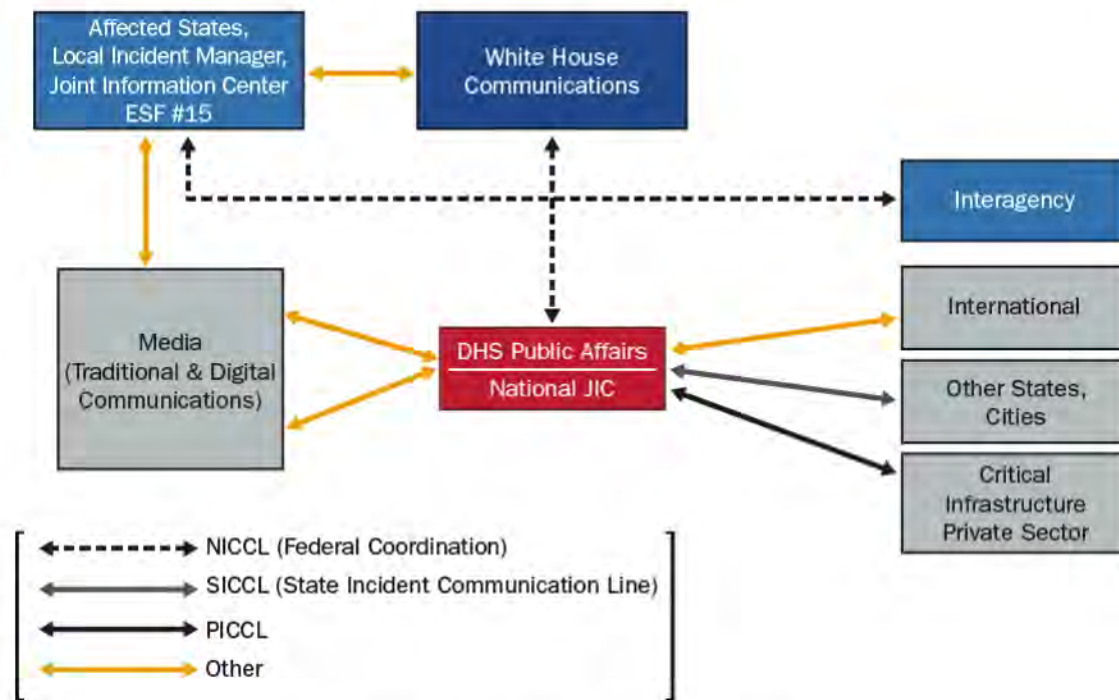


Figure C.1-1: National JIC Organization

Joint Information Center

The JIC supports the coordination of local, state, tribal, territorial, insular area, and Federal governments and private sector communications with the public. The JIC is the central point for coordination of incident information, public affairs activities, and media access to information regarding the latest incident. The JIC also serves as the media center for press briefings.

Communications Resources

Synchronization of public information and warnings is essential to save lives; protect health and safety; mitigate damage and impact to individuals, communities, and the environment; and facilitate recovery and mitigation information for individuals, families, businesses, governments, and the media. Pre-identified incident information and warning protocols, established in a joint effort by the Emergency Interoperability Consortium, the DHS Office of Emergency Communications, and the Office of Interoperability and Continuity sponsored Practitioners Steering Committee, are ready for immediate use during an incident requiring a coordinated Federal interagency response. Tools, resources, and supporting programs which Federal departments and agencies use to execute and synchronize these activities are listed and briefly described below.

Communications Coordination Lines

The NICCL, coordinated by the National JIC, is DHS's mechanism for coordination with other Federal departments and agencies. The NICCL is the primary source for Federal-to-Federal information sharing, but may also include communications from impacted states and local communities. The NICCL can be a call-in conference or an open line that is monitored 24/7 for the exchange of information and updates. The State Incident Communications Conference Line (SICCL)

is the coordination mechanism between states to foster information sharing and discussion of shared concerns and issues following an incident. The SICCL is a scheduled conference call and is established as needed. The SICCL allows states to remain engaged in the information-sharing process and participate in decision making. The Private Sector Incident Communications Conference Line (PICCL) is a standing line that DHS Public Affairs uses to provide timely public information to the critical infrastructure sectors and their affiliated entities during an incident response. During a response in which FEMA stands up the NBEOC, NBEOC Coordination calls may be initiated with private sector partners across various sectors.

Integrated Public Alert and Warning System

IPAWS provides integrated alert and warning services to local, state, tribal, territorial, insular area, and Federal authorities to address the general public, including individuals with access and functional needs, such as individuals with disabilities, those from religious and racial and ethnically diverse backgrounds, and people with LEP. IPAWS allows authorized alerting authorities to send one message which is disseminated simultaneously through multiple communications methods and devices to reach as many people as possible to save lives and protect property. IPAWS allows the President and/or delegated officials to address the American people during all emergency or disaster circumstances. IPAWS enables local, state, tribal, territorial, insular area, and Federal alert and warning emergency communication officials to access multiple broadcast and other Common Alerting Protocol compliant communications pathways such as the Emergency Alert System (EAS), Wireless Emergency Alerts (WEA) (formerly known as Commercial Mobile Alert System (CMAS), and National Weather Service (NWS) Dissemination Systems, and other unique alerting technologies, for the purpose of creating and activating alert and warning messages.

The WEA component of IPAWS provides an interface to participating mobile service providers for the delivery of alert information to individual mobile devices located within the affected area. The IPAWS WEA capability provides public safety officials with the ability to send 90 character, geographically targeted, text-like alerts to the public, warning of imminent threats to life and property. The cellular industry is a critical partner in the implementation and operation of this alert capability. Figure C.1-2 demonstrates the IPAWS architecture.

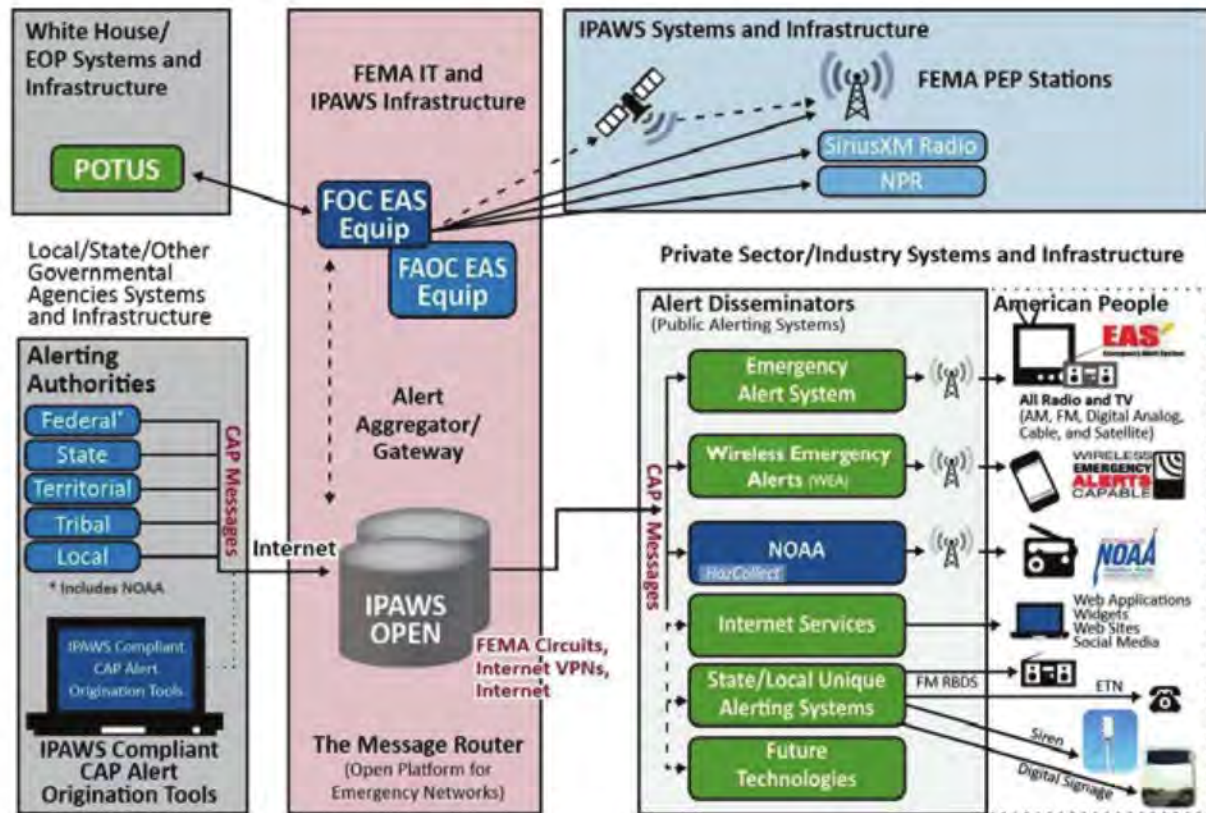


Figure C.1-2: IPAWS Architecture

Emergency Alert System

The EAS is a national public warning system that requires broadcasters, cable television systems, wireless cable systems, satellite digital audio radio service providers, and direct broadcast satellite providers to provide communications capability to the President and/or delegated officials to address the American people during a national emergency. The system may also be used by local, state, tribal, territorial, and insular area authorities to deliver important emergency information such as imminent threats, weather information, America's Missing: Broadcasting Emergency Response (AMBER) alerts, and local incident information. The EAS is regulated by the Federal Communications Commission (FCC) and is managed by FEMA. In the event of a Presidential activation of the EAS, FEMA activates the EAS through the FEMA Operations Center. The distribution of EAS messages is reflected in Figure C.1-3.

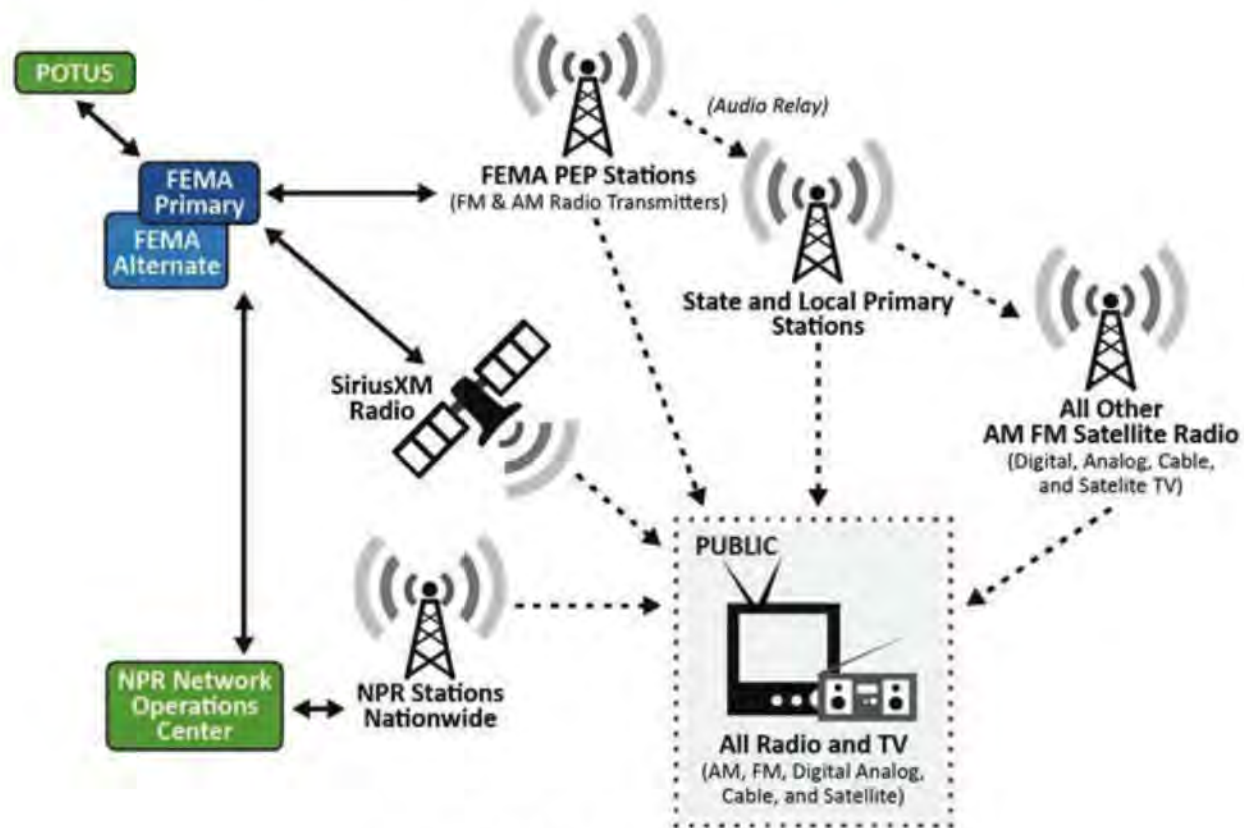


Figure C.1-3: EAS National Message Flow

FEMA National Radio System

The FEMA National Radio System is a High Frequency radio network which provides essential emergency communications capabilities between local, state, tribal, territorial, insular area, and Federal governments during emergencies or disasters. This system is regarded as a first responder communications mechanism which may be used to maintain reliable long- and short-range radio communications with affected disaster areas without dependence upon more susceptible commercial terrestrial and satellite telecommunications networks.

National Oceanic and Atmospheric Administration Weather Radio All Hazards System

The Department of Commerce (DOC)/National Oceanic and Atmospheric Administration (NOAA) NWS HazCollect system uses IPAWS for local, state, tribal, territorial, and insular area officials' broadcasts emergency alert information to the public over the DOC/NOAA Weather Radio All Hazards system.

Health Alert Network

The Health Alert Network is the Centers for Disease Control and Prevention's (CDC) primary method of sharing public health information with public information officers; local, state, tribal, territorial, insular area, and Federal public health practitioners; clinicians; and public health laboratories.

National Terrorism Advisory System

The National Terrorism Advisory System (NTAS) enables the timely distribution of detailed terrorist threat information to the public, government agencies, first responders, airports and other

transportation hubs, and the private sector. NTAS Alerts are based on the nature of the threat and can be disseminated to targeted audiences. NTAS alerts provide a concise summary of the threat, information about actions being taken to ensure public safety, and recommended steps that individuals, communities, businesses and governments can take to help prevent or respond to the threat.

Domestic Communications Strategy

The Domestic Communication Strategy is a guidebook which provides options for public information strategies, complementing existing Federal plans and strategic guidance documents, which may be employed in the event of a domestic terrorist attack or a credible threat to the homeland.

Disaster Relief and Recovery Program Resources

FEMA provides a resource to assist survivors in applying for disaster assistance benefits. The www.disasterassistance.gov Web site provides an information source during incidents for survivors on information related to Federal assistance.

Table C.1-1 depicts department, agency, or function roles and the assigned responsibilities with regard to the provision of public information and warning services.

Table C.1-1: Roles and Responsibilities

Department, Agency, or Function	Responsibility
JIC	<ul style="list-style-type: none"> ▪ Serves as a central point for coordination of incident information, public affairs activities, and media access to information regarding the latest developments. ▪ Incident JIC: is the physical location where all public affairs professionals involved in the response work together to provide critical emergency information, media response, and public affairs functions. ▪ Virtual JIC: links all participants through technological means (secure or non-secure) when geographical restrictions, incident management requirements, and other limitations preclude physical attendance by public affairs leadership at a central location. ▪ Satellite JIC: is a forward-deployed component of an incident JIC. ▪ Area JIC: multiple JICs may be used when there are multiple JFOs to support the area command Unified Coordination structure and whenever multiple JICs are operating in support of the same or related incidents and jurisdictions.
FEMA External Affairs (EA), CA	<p>Primary point of contact for all Congressional outreach and coordination at the JFO. The goal of CA is to be a credible and reliable source of information. The mission of CA is to contribute to the well-being of the Nation following an incident by coordinating a proactive and continuous dialogue between the Federal efforts and the Congressional delegation of the affected area. CA is responsible for the following:</p> <ul style="list-style-type: none"> ▪ Coordination of the information exchange between DHS, FEMA, Members of Congress, and their staff. ▪ Responses to Congressional inquiries and casework. ▪ Arrangements for Congressional site visits to help members understand the local, state, tribal, territorial, insular area, and Federal response and recovery process. ▪ Development of a CA strategy for outreach and incident-specific objectives.

Department, Agency, or Function	Responsibility
FEMA EA, IGA (local, state, tribal, territorial, and insular area)	IGA establishes working relationships with local, state, tribal, territorial, and insular area entities to create and maintain an open, two-way line of communication between these groups and Federal departments and agencies.
FEMA EA, International Affairs	International Affairs coordinates all foreign delegation visits by providing information briefings and site visits to impacted areas. International affairs serves as a liaison with DOS on all international activities including the donation of goods and services and assists with the coordination of foreign press by working with the Foreign Press Center at DOS.
FEMA EA, Private Sector	Private Sector is responsible for coordinating with established business networks and industry-specific related groups such as the U.S. Chamber of Commerce, other national networks, and state and regional networks. The private sector staff identifies issues that directly affect the private sector and the business community, to ensure employees are knowledgeable about recovery programs.
FEMA EA, Planning and Products	<ul style="list-style-type: none"> ▪ Supports lifesaving and life-sustaining communications by creating timely products to alert and advise the public, in coordination with local, state, tribal, territorial and insular area counterparts. ▪ Centralized strategic message planning and development. ▪ Establishes liaisons to different operational program areas for gathering timely, accurate information to share with the public. ▪ Develops all written external products and internal communications documents that other ESF #15 components share with stakeholders for unified messaging. ▪ Ensures information is available in accessible formats for the whole community, including LEP populations and those with access and functional needs.
FEMA National IMATs	EA is represented on National and Regional IMATs through an External Affairs Advisor. This person deploys with the IMAT in a notice incident prior to the expected incident and provides situational awareness to the Regional and Headquarters EA Offices. During a no-notice incident, the time between the deployment of the IMAT and EAO may be similar. The IMAT external affairs advisor provides support to the EAO as needed and as long as the IMAT is activated.
DHS Office Cybersecurity and Communications (CS&C)	CS&C is responsible for enhancing the security, resiliency, and reliability of the Nation's cyber and communications infrastructure. CS&C actively engages the public and private sectors as well as international partners to prepare for, prevent, and respond to catastrophic incidents that could degrade or overwhelm strategic assets.
DHS Center for Faith-Based and Neighborhood Partnerships	The DHS Center for Faith-based and Neighborhood Partnerships has protocols to disseminate messaging to approximately 1,900 stakeholders. These stakeholders represent local, state, and national organizations that serve as community force multipliers among impacted populations. The DHS Center also has the capability to increase communication reach to faith-based and community organizations through its Faith-based and Neighborhood partnership counterparts in 13 Federal agencies.

Department, Agency, or Function	Responsibility
USCG	The USCG has a range of external affairs personnel and offices arrayed around the Nation. While they are mainly located in coastal areas, they can be surged and deployed for contingency purposes to other incidents. Special response capability is provided by a Public Information Assist Team. This is a deployable, specialized Public Affairs team skilled in hazardous materials and environmental response, capable of supporting conventional, biological, and chemical incidents.
DOC/NOAA	DOC/NOAA Weather Radio broadcasts, NWS warnings, watches, forecasts, and other non-weather related hazard information 24 hours a day. During an emergency, NWS forecasters interrupt routine weather programming and send out a special tone that activates weather radios in the listening area. Weather radios equipped with a special alarm tone feature can sound an alert and give immediate information about a life-threatening situation.
DOI	The Department of the Interior and its bureaus provide coordinated, prompt, reliable, and actionable media and public information and warning to people within national parks, wildlife refuges, and other Department of the Interior-administered public lands. The Department and its bureaus also serve as a Public Information and Warning coordination node for incidents that occur on or impact tribal lands, the territories and the freely associated states.
HHS	<p>The HHS Assistant Secretary for Public Affairs (ASPA) assumes the lead in media response for public health, coordinated with and through the JIC. Depending on the nature of the incident or event, HHS ASPA may designate one of the HHS agencies (e.g., CDC, National Institutes of Health, Food and Drug Administration) to take the lead on public affairs activities with the responsibility of consulting with the HHS ASPA as they move forward to manage the incident communications. In the event of a terrorist incident, the FBI would be consulted before issuing sensitive media/press releases.</p> <p>HHS ASPA coordinates the overall HHS Public Affairs planning, development, and implementation of emergency incident communications strategies and activities for the department. The HHS ASPA maintains a close liaison with the Secretary of Health and Human Services, White House, DHS, CDC Director, National Institutes of Health Director, Food and Drug Administration Commissioner, Assistant Secretary for Preparedness and Response, and other principles. HHS ASPA also directs all HHS/CDC Public Affairs Team operations and meets regularly with team leaders. HHS ASPA maintains the following team structure for incident response:</p> <ul style="list-style-type: none"> ▪ Communications Services Division ▪ News Division ▪ Special Outreach Division ▪ Speech and Editorial Division ▪ Web Communications Division.
Department of Transportation (DOT)	The Office of the Secretary's Public Affairs Office will coordinate the overall DOT response, maintaining close contact with DOT's modal administration public affairs personnel. DOT maintains a contract for an Associated Press feed with eight stations. The Department of Public Affairs will look to DHS as the lead agency in coordinating a message. The Transportation Public Affairs message will, in turn, be managed solely by the Transportation Director of Public Affairs in coordination with other appropriate Federal agencies.

Department, Agency, or Function	Responsibility
Department of Veterans Affairs (VA)	<p>The VA maintains a national force of field external affairs personnel to support the wide network of facilities around the Nation. Field EAOs are located at each VA medical center, Regional Office, and cemetery. VA's regional offices of public affairs are located in New York; Washington, DC; Atlanta; Chicago; Dallas; Denver; and Los Angeles, plus the VA's central office compliment of EAOs. The VA maintains contracts for news monitoring clipping services, and videotape and photo duplication services at the central office. Three Regional Public Affairs Offices have news clipping service contracts.</p> <p>Public Affairs will follow the DHS lead in communicating the incident response message as well as supporting HHS regarding health and medical services. At the incident site(s), VA's Public Affairs Officers will assist in communicating appropriate medical and emergency response messages in coordination with local representatives of DHS, HHS, and local, state, tribal, territorial, and insular area emergency response authorities whenever possible.</p>
EPA	<p>The EPA Headquarters Public Affairs staff consists of media relations; communications including Web posting on the EPA homepage; video and still photography, and public liaisons. There are Public Affairs Offices located in each of the 10 EPA Regional Offices.</p>
GSA	<ul style="list-style-type: none"> ▪ GSA provides emergency relief supplies, facility space, office equipment; office supplies, telecommunications support; transportation services, and contracting services through a centralized acquisition channel. ▪ GSA provides support for requirements not specifically identified in other ESFs, including excess and surplus property disposal. ▪ GSA maintains the following Web sites: <ul style="list-style-type: none"> • http://www.usa.gov: The official Web portal of the U.S. Government and the agreed to site where relevant incident content is posted. All Federal Web sites are mandated to link to http://www.usa.gov, which lends authority to its content and improves its findability in search queries. • GobiernoUSA.gov: The Spanish-language sister site of http://www.usa.gov. GobiernoUSA.gov follows the same mandate to provide official government information to people with LEP. • National Contact Center: Serves as an information and referral service for the general public who seek information on a wide range of government programs, including those administered by the Executive, Legislative, and Judicial branches. 1-800-FED-INFO (1-800-333-4636)
NRC	<ul style="list-style-type: none"> ▪ In the event of a nuclear or radiological emergency involving an NRC-licensed nuclear facility or materials, the NRC would activate and fully staff its EOC at its headquarters and/or regions, including public affairs, to issue press announcements, and operate a news center for briefings, as needed. Briefings would be webcast live and archived for future viewings. ▪ Regional teams with Public Affairs staff would be deployed from one of four regions to the site of the incident where they would support a pre-established joint information/news center provided by the facility operator. This facility accommodates Public Affairs staff of the facility operator, NRC, FEMA, the affected state and counties, and, in the event of a terrorist attack, act of sabotage, or other criminal act, the FBI. Members of the media would be briefed periodically at this facility on the status of the facility and the response.

Department, Agency, or Function	Responsibility
U.S. Postal Service	The U.S. Postal Service has assisted in the past with the distribution of information following disaster incidents.
American Red Cross	<ul style="list-style-type: none"> ▪ The American Red Cross Communications Department will work in cooperation with DHS to coordinate and share public messaging following an incident. ▪ The American Red Cross takes the lead in crafting and disseminating messaging that relates to specific relief activities conducted by the American Red Cross including mass care sheltering, feeding, bulk distribution of supplies, recovery assistance, fundraising and disaster welfare inquires. ▪ The American Red Cross coordinates public messaging related to preparedness, recovery assistance, protective measures, and health and safety with other lead agencies. ▪ The American Red Cross Web site, http://www.redcross.org, acts as the primary information source for the public before and after an incident. The Web site features: <ul style="list-style-type: none"> • Preparedness, safety and recovery information for a variety of disaster types. • Shelter Map with a live feed from the National Shelter System displaying locations of all open American Red Cross shelters. • Safe & Well tool including registry for disaster survivors and search functionality. • Incident-specific information about American Red Cross services and how the public can help. ▪ The American Red Cross also has a series of apps available for iPhone and Droid users including a First Aid app with disaster preparedness tips, hazard specific apps, and a Shelter View app linking to real-time shelter locations pulled from National Shelter System. ▪ The American Red Cross Digital Operations Center staff also monitors the social media space to collect situational awareness information and provide preparedness, response and recovery information to social media users. ▪ The American Red Cross maintains a team of trained, national media spokespersons that are deployed on high-media visibility incidents where the American Red Cross is providing services.

Public Information and Warning Tasks

Mission Objectives

- **PI-MO-1:** Coordinate the development and delivery of emergency services and public messaging with affected jurisdictions, including the private sector and NGOs. (Supports PI-Critical Task-1, PI-Critical Task-2)
- **PI-MO-2:** Monitor, analyze, and validate incoming information. (Supports PI-Critical Task-2)

Phase 1a—Normal Operations

End State: Federal planning, training, and outreach activities have occurred in the absence of a specific threat. (Supports PI-MO-2)

- Tasks by Phase, by ESF
 - ESF #5
 - ♦ Produce pre-scripted informational messages and informational materials for media use to prepare the public for survival during an emergency or disaster.
 - ♦ Maintain and update FEMA's Ready.gov and GobiernoUSA.gov (Spanish) Web sites.
 - ♦ Establish and maintain a comprehensive, multi-directional, dynamic information-sharing network, through the DHS Office of Infrastructure Protection in coordination with DHS Office of Intelligence and Analysis, to provide timely and actionable threat information, assessments, and warnings to public and private sector security partners including critical infrastructure owners and operators.
 - ♦ Coordinate pre-incident communications planning at the local, state, tribal, territorial, and insular area levels.
 - ESF #8
 - ♦ Provide pre-incident or onset information on Public Health, Healthcare, and Emergency Medical Services' needs (e.g., advice about vaccinations for influenza and pneumonia and relevant medical countermeasures).
 - ♦ Maintain and update HHS Web sites (e.g., CDC Public Health Information Network).
 - ESF #12
 - ♦ Provide a point of contact to coordinate with ESF #15 through the DOE Public Affairs office.
 - ♦ Draft and disseminate media informational materials (e.g., press releases, fact sheets, statements, responses to questions and interview requests), in coordination with the DOE Public Affairs Office.
 - ♦ Provide informational materials developed by DOE sites or other DOE response locations as appropriate, in coordination with the DOE Public Affairs Office.
 - ESF #15
 - ♦ Establish relationships and information-sharing with ESF #15 partners and external stakeholders.
 - ♦ Develop strategic communications plans to coordinate messaging with the White House.
 - ♦ Provide key information to the public on risks, preparatory, and mitigation actions.

Phase 1b—Elevated Threat

End State: Pre-scripted messaging has been prepared for release. (Supports PI-MO-1)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 1c—Credible Threat

End State: Pre-scripted messaging is being adjusted, as required, and prepared for release. (Supports PI-MO-1)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident.

Phase 2a—Immediate Response

End State: Based on preliminary incident assessments and information analysis, public messaging has been coordinated across local, state, tribal, territorial, insular area, and Federal jurisdictions. Initial public messages have been broadcast to applicable areas using available mechanisms. (Supports PI-MO-1, PI-MO-2)

- Tasks by Phase, by ESF
 - ESF #1
 - ♦ Provide informational media releases through EA relative to the safety and accessibility of roads, bridges, and other transportation routes to responders and to the general public.
 - ♦ Provide Notices to Airmen for aeronautical advisories and Notices to Mariners for maritime advisories.
 - ESF #2
 - ♦ Coordinate public information and outreach with owners and operators of critical communications and cyber infrastructure and Federal agencies that have authorities or equities in protecting the communications infrastructure through the DHS Office of Cybersecurity and Communications (CS&C), consistent with national policy and in coordination with relevant departments and agencies.
 - ♦ Monitor communications systems in the affected area for situational awareness and provide alternative communications.
 - ESF #5
 - ♦ Coordinate staffing resources, training, and operational and tactical support to the Assistant EAO for the Private Sector and ESF #15 private sector operations located in the NRCC, the RRCCs and JFOs through the FEMA Private Sector Division.
 - ♦ Conduct communication and coordination between the U.S. Government and other nations regarding the response to a domestic crisis through DOS.
 - ESF #6
 - ♦ Provide information to survivors on the location of shelter facilities and distribution points for food, water, and other human needs materials.
 - ♦ Initiate increased Red Cross Safe and Well Web site activities for the Safe and Well Linking Program.
 - ESF #8
 - ♦ Coordinate Public Health, Healthcare, and Emergency Medical Services messages across the Federal Government to ensure accuracy and consistency.
 - ♦ Coordinate communications activities with local, state, tribal, territorial, and insular area communications staff, including regional or local communications centers as appropriate, and amongst HHS and CDC public affairs personnel.

- ESF #10
 - ♦ Coordinate the distribution of public information on oil/hazardous materials incidents with ESF #15.
- ESF #11
 - ♦ Provide updates related to required environmental compliance activities, in coordination and cooperation with FEMA/EA and FEMA/Office of Environmental Planning and Historic Preservation.
 - ♦ Provide updates on the progress toward addressing plant and animal disease situations in close coordination with FEMA.
 - ♦ Provide guidance to protect and respond to damaged natural and cultural resources and historic properties, in coordination and cooperation with FEMA/EA, FEMA/Office of Environmental Planning and Historic Preservation, and Regional Environmental Officers.
 - ♦ Coordinates with ESF#6 and local, state, and tribal governments and NGOs to address supplemental nutrition assistance needs, including the procurement and delivery of infant formula and baby food to supplement FEMA's infant/toddler kits.
- ESF #12
 - ♦ Provide updates on the status of essential energy resources through communication with Federal senior leadership and to the public via situation reports through DOE, in coordination with private sector energy owners and operators.
- ESF #15
 - ♦ Activate the National JIC to coordinate all response-related press and media affairs.
 - ♦ Establish a JIC and the National Public Health Radio Network to collaborate with the Emergency Communication System to provide and coordinate timely media or public information; assess and identify emergency risk communication needs across all media platforms; develop, translate, and disseminate key public health messages.
 - ♦ Initiate the NICCL, SICCL, and PICCL as identified by ESF #15 leadership for interagency, state, and private sector communications coordination.
 - ♦ Coordinate the first release of information to the public and establish social media messaging and media monitoring within the first hour of the incident.
 - ♦ Appoint an ESF #15 EAO and deploy ESF #15 component staff to the affected area to support the response. Work with the state to identify external affairs gaps, shortfalls, and staffing needs.
 - ♦ Develop, coordinate, and disseminate unified messaging to external stakeholders on key lifesaving and life-sustaining information. Stakeholders include: the affected and non-affected public; private sector business partners; members of Congress; the media; and local, state, tribal, territorial, and insular area government partners.
 - ♦ Coordinate with other ESFs and local, state, tribal, territorial, insular area, and Federal governments and private sector partners on critical, actionable public information, situational updates and methods to reach the whole community.
 - ♦ Ensure all messaging is accessible to the whole community, including individuals with LEP.

- Respond to rumors and inaccurate information to minimize concern and social disruption.

Phase 2b—Deployment

End State: Based on more comprehensive situational assessments, public messaging has been refined to meet the immediate needs of responders and the general public. (Supports PI-MO-1, PI-MO-2)

- Tasks by Phase, by ESF
 - All
 - Maintain coordination with FEMA/EA to provide timely and accurate information for the safety and security of responders and survivors within the impacted area and information to the general public.
 - ESF #5
 - Activate ESF #15 at the national and regional levels to provide coordination and technical assistance.
 - Coordinate the deployment of Infrastructure Liaisons, through DHS Office of Infrastructure Protection, to JFOs to implement critical infrastructure support activities including coordination with ESFs, local, state, tribal, territorial, insular area, and Federal entities and critical infrastructure owners and operators.
 - Assess and revise local emergency public information activities regarding survivor decontamination.
 - Provide information for the development of credible, culturally and linguistically appropriate, and accessible messages to inform ongoing emergency services and the public about protective measures and other life-sustaining actions.
 - Disseminate public messages informing the population to be aware of the need to extremely limit communications and allow responders to fully utilize communication pathways.
 - ESF #8
 - Provide an initial HHS-coordinated public service announcement and coordinate and issue follow-on announcements at frequent and regular intervals.
 - Coordinate public information announcements with the American Association of Blood Banks (AABB) regarding the adequacy and safety of the Nation's blood supply.
 - Support a JIC in the release of general medical and public health response information to the public.
 - ESF #15
 - Coordinate national-level messages with local, state, tribal, territorial, insular area, and Federal governments, outlining Federal support and capabilities being provided to local, state, tribal, territorial, and insular area response operations, and establish the National JIC, through DHS Public Affairs.
 - Ensure that sufficient Federal assets are deployed to the field during incidents requiring a coordinated Federal response to provide accurate, coordinated, timely, culturally and linguistically appropriate, and accessible information to affected audiences, including governments, media, the private sector, and the local populace, through FEMA/EA.

- ♦ Conduct initial demographic assessments to support field operations and outreach, including information on populations with disabilities or LEP.
- ♦ Conduct communications planning through an IAP with incident-specific guidance and objectives.
- ♦ Provide critical information to external stakeholders, including: lifesaving and life-safety information for impacted populations; risk information and available resources to reduce loss of life or property.
- ♦ Work with external stakeholders to reach diverse audiences and widely disseminate information, ensuring information is accessible to the whole community including individuals from diverse racial and ethnic groups and individuals with LEP.
- ♦ Provide direct support to the FCO and other members of the UCG.
- ♦ Coordinate closely with the affected state(s) to identify community leaders and neighborhood advocacy groups to assist in the rapid dissemination of information, identify unmet needs, establish an ongoing dialogue and information exchange, and facilitate collaborative local, state, tribal, territorial, insular area, and Federal planning and mutual support for disaster response and recovery.
- ♦ Coordinate with Congressional offices on situational updates, the assistance process, and constituent issues to ensure consistent two-way communications.
- ♦ Inform local, state, tribal, territorial, and insular area elected and appointed officials on Federal available assistance programs to increase the impact of committed Federal resources.
- ♦ Disseminate information with the assistance of state municipal leagues, county associations, tribal governments, and territorial governments.
- ♦ Issue task orders against Broadcast Operations contract for satellite truck/video crew support and against Translation Services contract for multilingual support, as required.
- ♦ Support Preliminary Damage Assessment teams with EA staff.
- ♦ Coordinate and conduct press conferences (headquarters, state EOC, and/or JFO).
- ♦ Coordinate media access to the impacted area.
- ♦ Initiate AABB Task Force coordinated public information announcement regarding the adequacy and safety of the Nation's blood supply.

Phase 2c—Sustained Response

End State: Public messaging has been refined to facilitate the transition to recovery. (Supports PI-MO-1, PI-MO-2)

- Tasks by Phase, by ESF
 - ESF #15
 - ♦ Provide incident-related information through DHS/OPA to the media and other sources in accessible formats and multiple languages to individuals, households, businesses, and industries directly or indirectly affected by the incident, ensuring all messaging is accessible to the whole community.

- ♦ Monitor news coverage to ensure that accurate information is disseminated through DHS/OPA.
- ♦ Disseminate authorized incident information from DHS/OPA through new media (official Web sites, social networking platforms) to ensure wide delivery of lifesaving information.
- ♦ Maximize the use of video and digital imagery to communicate during incidents through DHS/OPA.
- ♦ Handle appropriate special projects such as news conferences and press operations for incident area tours by government officials and other dignitaries through DHS/OPA.
- ♦ Provide basic services, such as communications and supplies, to assist news media in disseminating information to the public through DHS/OPA.
- ♦ Employ risk communications to regularly update the public on the impacts of the incident.
- ♦ Disseminate messages to the public on available disaster assistance programs, application processes, and strategies to reduce future risks—ensuring information is accessible to the whole community.
- ♦ Provide critical information to evacuees returning home and strategies to rebuild safer and stronger communities.
- ♦ Arrange for incident site visits for members of Congress, senior officials, and others as identified.

Phase 3a—Short Term Recovery

End State: Public messaging content and dissemination mechanisms have begun to transition to pre-incident levels. (Supports PI-MO-1, PI-MO-2)

- Tasks by Phase, by ESF
 - All
 - ♦ Continue to provide information to facilitate the delivery of information related to the transition from response messages to responders and survivors to instructional messages related to the transition to recovery.
 - ESF #15
 - ♦ Inform local, state, tribal, territorial, and insular area elected and appointed officials on response efforts, protocols, and recovery programs.
 - ♦ Provide public messaging to support:
 - Assessment of the extent and severity of damages to homes and other property
 - Restoration of services generally available in communities (e.g., water, food, and medical assistance)
 - Repair of damaged homes and property
 - Professional counseling
 - Education on proper rebuilding practices.

- Support the dissemination of information about disaster assistance available to support rebuilding efforts.

Administration and Support

Each Federal department and agency will continue to maintain its roles and responsibilities under Federal laws and regulations. Each department and agency will adhere to individual activation, notification, deployment, and deactivation procedures.

Table C.1-2: Public Information and Warning Core Capability Waivers

Type	Description
FCC Waiver	Issue notices and orders providing telecommunications carriers, wireless, and satellite operators in disaster-affected areas more time to file their regular reports and providing assistance in restoring operations (e.g., granting waivers to allow carriers and their numbering administrators to "port"/redirect telephone numbers geographically outside of their rate centers).

Appendix 2 to Annex C: Public Health, Healthcare, and Emergency Medical Services

Purpose

The purpose of this appendix is to describe the delivery of the Public Health, Healthcare, and Emergency Medical Services core capability.

The Public Health, Healthcare, and Emergency Medical Services core capability provides lifesaving medical treatment via emergency medical services and related operations to avoid additional disease and injury by providing targeted Public Health, Healthcare, and Emergency Medical Services support and products to all people in need within the affected area.

The Public Health, Healthcare, and Emergency Medical Services (HM) critical tasks are as follows:

- **HM-Critical Task-1.** Deliver medical countermeasures to exposed populations.
- **HM-Critical Task-2.** Complete triage and initial stabilization of casualties and begin definitive care for those likely to survive their injuries.
- **HM-Critical Task-3.** Return medical surge resources to pre-incident levels, complete health assessments, and identify recovery processes.

Situation

During a disaster, response teams provide acute medical care to survivors and responders. ESF #8 provides health professionals, medical equipment, and supplies for lifesaving medical treatment to injured patients and to prevent the spread of disease in the impact area. Disaster medical treatment occurring at any time during the response timeline focuses on providing stabilizing care with the goals of reducing morbidity and mortality, promoting patient independence, and reducing the demands upon the healthcare systems in the impacted area. The scope of these services may include acute medical care for new conditions, which may or may not be directly related to the disaster. It also includes the delivery of urgent stabilizing care to those who are dependent upon the delivery of healthcare services on an ongoing basis, as these patients have the potential to deteriorate quickly during the initial response phases of a disaster.

During a catastrophic incident, the need for medical support may exceed response capabilities. Transportation resources used to deliver medical supplies and personnel may be limited resulting in a delay in medical care delivery. Damaged or inaccessible healthcare infrastructure can delay the provision of life saving and sustaining services. In addition to acute care survivors, individuals with chronic medical needs may deteriorate more rapidly if their chronic medical conditions are not properly managed. This could result in the worsening of the health and medical condition of the affected disaster population and overburdening of the healthcare system. If a national event meets the International Health Regulations' (2005) definition of a Public Health Emergency of International Concern as assessed by HHS, HHS will notify the World Health Organization of the event.

Assumptions

General assumptions for the Response FIOP have been identified in the base plan. Assumptions specific to this core capability include:

- States will have pre-planned through EMAC or other mechanisms to ensure provider license reciprocity to allow interstate-responding medical personnel to provide care to those in the impacted area.

Mission

Federal interagency partners will be initiating and providing lifesaving medical treatment by completing triage and initial stabilization of casualties and beginning definitive care for those likely to survive their injuries following an incident, delivering medical countermeasures, completing health assessments, identifying recovery processes, and returning medical surge resources to pre-incident levels.

Execution

Concept of Operations

Phase 1

The Secretary of Health and Human Services, through the Assistant Secretary for Preparedness and Response reviews readiness and deployment status of personnel and resources to support state and local response operations. Federal health officials will coordinate directly with state Health Departments of the impacted states to determine resource needs. HHS, in coordination with FEMA, state, and local officials, will identify potential locations for Federal Medical Stations and Medical Staging Areas. HHS will provide liaisons to EOCs and assessment teams to the extent that resources permit.

HHS enhances the preparedness and resiliency of communities through public health and medical preparedness grants, mitigation efforts, readiness guidance, and support in planning, training, and exercises. Additionally, PSMAs, IAAs, and contract vehicles (with Federal partners, local, state, tribal, territorial, and insular area agencies, national Voluntary Organizations Active in Disaster and private sector in the likely impact areas) are developed to enable rapid implementation and execution.

In coordination with local, state, tribal, territorial, and insular area officials, FEMA/Logistics and HHS/Logistics pre-identify buildings of opportunity for Federal Medical Stations and locations for medical staging. HHS coordinates with the FEMA-led Interagency Coordinating Council on Emergency Preparedness and Individuals with Disabilities to develop pre-scripted public and responder messaging, ensuring cultural and linguistic appropriateness, to make individuals with medical, access, and functional needs aware of which items they should bring with them during an evacuation and any other appropriate messages. HHS develops pre-scripted public messages that are culturally and linguistically appropriate. Finally, HHS coordinates with states to integrate Federal medical assets with civilian volunteers a state or locality identifies through specialist databases, e.g., Emergency System for Advance Registration of Volunteer Healthcare Professionals and Medical Reserve Corps.

Phase 2

Once a major disaster or emergency declaration has been made under the Stafford Act, and/or a determination has been made that an incident is a public health emergency (declared by the Secretary, Department of Health and Human Services), and a mission assignment or other funding agreement is issued (e.g., pursuant to the Economy Act), ESF #8 partners commence providing 24/7 support where needed to save lives, minimize adverse health and medical effects and stabilize the public health, healthcare, and Emergency Medical Services infrastructures.

Once a determination has been made that a need or potential need exists that exceeds the capabilities of the local, state, tribal, territorial, or insular area government, HHS will deploy resources in anticipation of a Stafford Act declaration or under its independent authority where needed to save lives, minimize adverse health and medical effects and stabilize the public health, healthcare, and Emergency Medical Services infrastructures. HHS has the following resources that can be integrated into local/state/tribal/territorial/insular area response operations:

- Disaster Medical Assistance Teams (DMAT) from NDMS
- Public Health Service Teams
- Patient evacuation resources through the NDMS
- Surge ambulances through the FEMA administered National Ambulance Contract
- Medical equipment and personnel to establish Federal Medical Stations
- Veterinary Support from the National Veterinary Response Team
- Pharmaceuticals and medical supplies from the Strategic National Stockpile
- Technical assistance on a variety of public health, healthcare, and Emergency Medical Services matters
- Health situational awareness through the Secretary's Operations Center that will help build a common operating picture.

Depending on the disaster type, the primary focus is on providing medical surge capability, hospital decompression, or medical evacuation, which consists of caring for and evacuating critical patients out of the affected area to NDMS receiving hospitals and non-NDMS participating hospitals. The HHS-established Patient Movement Coordinating Group liaisons with DoD, VA, and DHS/FEMA; in coordination with the American Red Cross and local, state, tribal, territorial, and insular area agencies to move patients by air or by ground from locally operated points of embarkation/aeromedical marshaling points to medical facilities outside the anticipated impact area. Accessible transportation may be needed to move individuals with disabilities who need medical care. The National Ambulance Contract, which is activated by FEMA at the request of HHS, is used by the state to support patient movement and is based on validated state plan requirements for ambulance (e.g., ground, air, paratransit vehicles).

HHS medical and veterinary strike teams may be tasked to support medical requirements related to FEMA Federal mass evacuation at reception processing, embarkation and debarkation sites, and Federal congregate shelters. Additionally, they may be called upon to support DoD Disaster Aero-medical Staging Facilities at the designated aerial points of embarkation.

Local healthcare facility assessments, which includes a shelter-in-place assessment in the impact zone, are updated and provided through shared situational awareness products to determine capability to continue operations (power, water, debris) or whether rescue operations are required.

Accurate Public Health, Healthcare, and Emergency Medical Services status assessments are necessary for the Emergency Management Group and ESF #8 Support Agencies to plan for and sustain Public Health, Healthcare, and Emergency Medical Services response operations; to anticipate the need for follow-on personnel, supplies, and equipment; and to provide other pertinent information, as required to facilitate the response. Patient movement resumes as required by the damage to the healthcare infrastructure in the impacted area.

During sustained response and initial recovery operations, the Secretary's Operations Center maintains comprehensive shared situational awareness of the national-level domestic operating picture, as well as the specific incident(s), in order for HHS to make informed operational employment and resource allocation decisions.

Phase 3a

As the need for full-time interagency coordination at the JFO ceases, the IRCT plans for selective release of Federal medical resources, demobilization, deactivation, and closeout in an effort to facilitate the transition from Public Health, Healthcare, and Emergency Medical Services to the Recovery Health and Social Services. Federal departments and agencies then work directly with their respective partners (e.g., grantees, loan applicants) from their program offices to administer and monitor individual recovery programs, support, and technical services. The IRCT is scaled down to a level that ensures continued visibility on the execution of longer-term mission assignments and to maintain shared situational awareness of ongoing response operations. The HHS-Emergency Management Group may scale down operations commensurate with field activities or the operational tempo of the NRCC. As response operations begin to diminish, Incident Commanders demobilize Federal agencies from their respective operations.

Requirements for long-term, post-incident health surveillance or investigation are determined, and continued assistance to states regarding surveillance and monitoring efforts of disaster-related illness in the affected area may be necessary. Responsibility for managing these activities transitions back to the HHS Regional Office Staff.

Coordinating Structure

Many ESFs support the Public Health, Healthcare, and Emergency Medical Services core capability. The ESFs that perform tasks under this core capability are summarized in Figure C.2-1. Specific tasks conducted by these ESFs are identified in the Tasks by Phase, by ESF section below.

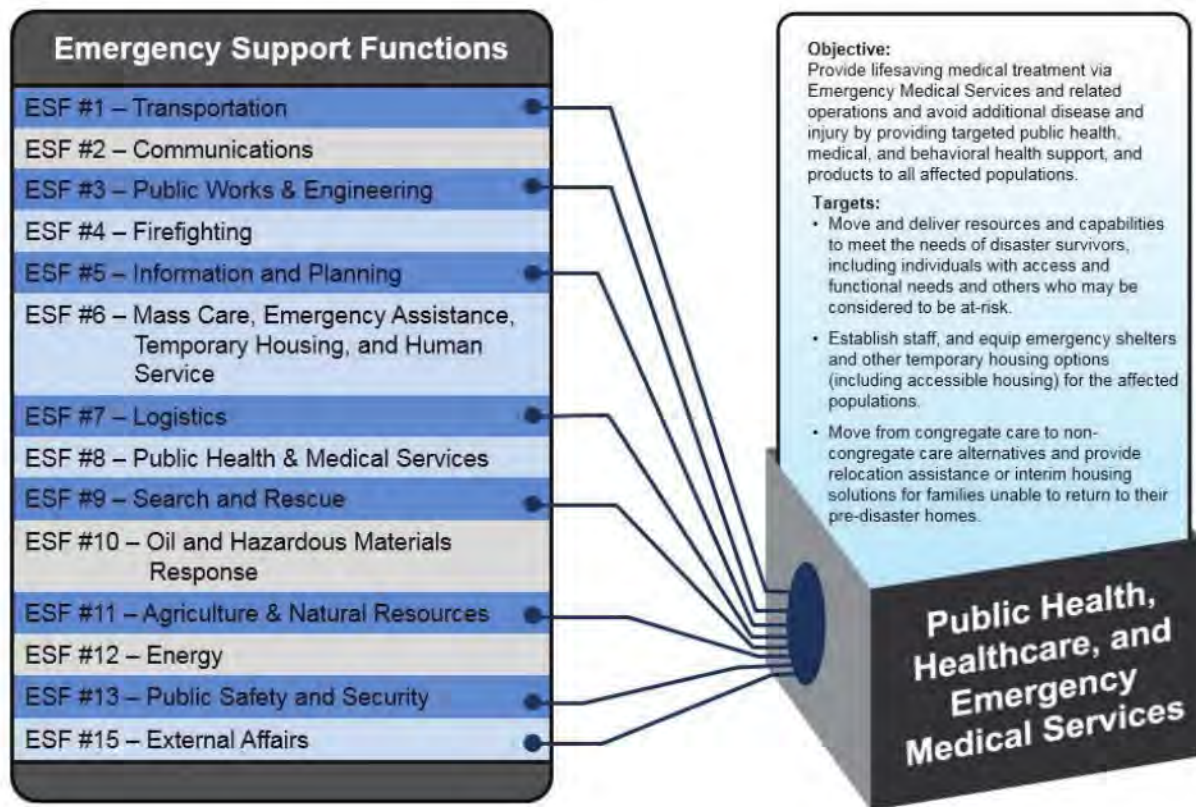


Figure C.2-1: Coordination of ESF Support to Public Health, Healthcare, and Emergency Medical Services

The vast majority of public health, healthcare, and Emergency Medical Services activities and services are provided by the private healthcare sector. ESF #8 augments the support provided by the private healthcare sector when requested by local, state, tribal, territorial or insular area governments. HHS is the Primary Agency for ESF #8 and provides planning and coordination for Federal public health, healthcare delivery, and emergency response systems to minimize and/or prevent health emergencies from occurring, detect and characterize a health incident, provide medical care and human services to those affected, reduce the public health and human service effects on the community, and enhance community resiliency to respond to a disaster. While local, state, tribal, territorial, and insular area officials retain primary responsibility for meeting public health, healthcare, and Emergency Medical Services' needs, ESF #8 can deploy Public Health, Healthcare, and Emergency Medical Services assets to assist as needed.

Coordinating the Response

When an incident occurs, actions are taken to prepare for, respond to, and recover from Public Health, Healthcare, and Emergency Medical Services emergencies. The health security mission activities focuses on those activities that protect the health of the public through the provision of public health, medical, environmental health, and animal health measures. HHS assigns personnel (e.g., U.S. Public Health Service Commissioned Corps, NDMS, Federal Civil Service) to address public health, medical, behavioral health, and veterinary needs. During a public health emergency,

HHS assumes operational control of Federal emergency Public Health, Healthcare, and Emergency Medical Services assets (except for members of the Armed Forces who remain under the authority and control of the Secretary of Defense) and prepares to deploy regional staff (e.g., IRCT) to provide initial ESF #8 support to the affected location. HHS assists local, state, tribal, territorial, and insular areas by conducting health surveillance to assess morbidity, mortality, and community needs related to an emergency and establishing a registry of potentially exposed individuals to conduct monitoring of the population for potential long-term health effects. In conjunction with Department or agency partners (USDA, DoD, FEMA, and the American Red Cross), HHS provides shared situational awareness of public health, medical, and behavioral health assistance and works to determine the appropriate response. In addition, HHS is the coordinating agency for activating Public Health, Healthcare, and Emergency Medical Services support along with patient movement requirements with other primary and supporting departments and agencies throughout an incident.

When an emergency exceeds the scope of an impacted area's hospital and/or healthcare resources, HHS, in coordination with DoD, VA, and DHS, activates the NDMS. This is a Federal interagency partnership that assists state and local authorities in dealing with the medical impacts of a major disaster. Upon activation, DoD provides NDMS support for the evacuation and medical management of patients. They also provide patient reception, tracking, and management of patients evacuated on DoD assets to nearby NDMS hospitals, VA hospitals, and DoD military treatment facilities that are available and can provide appropriate care. Through the National Ambulance Contract, FEMA provides ambulance and paratransit support to the states.

Upon approval by the Secretary of Defense, DoD also assists HHS by deploying available medical, surgical, behavioral health, environmental health, and other healthcare providers and personnel for patient clearing, staging, management, and treatment. DoD healthcare providers can support civilian hospitals, HHS deployed teams and points of medical countermeasure distribution. Military medical and veterinary personnel assist with the protection of public health by providing food, water, medical support, food safety assistance and animal services. Joint Regional Medical Planners working out their Joint Regional Planning Office within FEMA regions work closely with DCOs, local, state, HHS, FEMA and other regional representatives, and provide planning and operational response support. DoD can provide a range of assistance to HHS through medical logistics, laboratory diagnostics and confirmation testing, biosurveillance, blood products, telemedicine, occupational health assistance, vector control, and medical materials. In addition, DoD deploys available medical teams and platforms (e.g., hospital ships, Expeditionary Medical Support, naval vessels with medical/surgical capability), when requested and approved by the Secretary of Defense.

HHS coordinates with the American Red Cross which assists community health personnel (subject to staff availability) by providing mortality information to requesting agencies and by supporting NDMS evacuation through the provision of services for accompanying family members/caregivers in coordination with local, state, tribal, territorial, insular area, and Federal authorities.

The American Red Cross provides behavioral health support services for family members of the non-survivors, injured, and others affected by the incident. The American Red Cross may provide personnel in temporary infirmaries, immunization clinics, morgues, hospitals, and nursing homes.

Their assistance includes administrative support, logistical support, or health services support within clearly defined boundaries. At the request of HHS, the American Red Cross coordinates with the AABB Interorganizational Task Force on Domestic Disasters and Acts of Terrorism (AABB Task Force) to provide blood and services as needed through regional blood centers.

Federal response agencies also work closely with the private sector (e.g., regulated industries, academic institutions, trade organizations, and advocacy groups), volunteer organizations, and local,

state, tribal, territorial, and insular area agencies to coordinate ESF #8 response resources. ESF #8 organizations recognize that leveraging resources from these organizations and individuals with shared interests allows ESF #8 to accomplish its mission in ways that are the least burdensome, most beneficial to the American public, and enhance the resiliency of healthcare systems to deliver coordinated and effective care during public health emergencies and mass casualty incidents. NGOs, including community-based organizations, are also an important partner in recruiting and supporting medical volunteers, and providing medical and counseling services to survivors and their families.

During an emergency, HHS provides public health risk communication messages and advisories in conjunction with ESF #15 that relay relevant information on health hazards or other situations that could potentially threaten public health. This also includes the dissemination of public health information on protective actions related to exposure to health threats or environmental threats.

ESF #2 provides the essential communication infrastructure that enables the ESF #8 communication capability for coordination and situational awareness. DHS maintains shared situational awareness through HSIN to maintain a common operating picture.

Veterinary Medical Support

The USDA's Animal and Plant Health Inspection Service (APHIS) ensures an integrated response to disasters or emergencies by providing technical assistance regarding the safety and well-being of animals, which may include household pets and service and assistance animals. Depending on the incident type, APHIS will coordinate with HHS, EPA, DoD, USACE, and/or FEMA to provide technical advice regarding disposal of animal carcasses (any or all of which may contain potentially pathogenic organisms in their intestinal tracts such as *Salmonella*, *E. coli*, etc.) to protect animal health and reduce the potential for public health and/or environmental health concerns resulting from an incident. APHIS also responds to animal and agricultural health emergencies under USDA statutory authority, coordinates with ESF #8 on management of zoonotic disease, coordinates with ESF #8 to ensure that animal health issues (including both disease management and medical management) are supported, and collaborates with HHS and the Department of the Interior (DOI) to deliver effective "one health" response that integrates human, animal, and environmental health. During emergencies related to potential infectious contamination, the USDA responds in an effort to control and eradicate any outbreak of a highly contagious or economically devastating animal disease or plant pest. HHS coordinates with DHS to provide enforcement of international quarantines through DOS, USCG, Customs and Border Protection (CBP), Immigration and Customs Enforcement (ICE), and the Office of Health Affairs' Food, Agriculture, and Veterinary Defense office.

Public Health, Healthcare, and Emergency Medical Services Tasks

Mission Objectives

- **HM-MO-1:** Coordinate planning and operational analysis among governmental, nongovernmental, and private sector services and other mission areas to prepare for the delivery of medical care and countermeasures. (Supports HM-Critical Task-1)
- **HM-MO-2:** Analyze, prioritize, adjudicate, allocate, and deliver public health, behavioral health, and medical resources to support local, state, tribal, territorial, and insular area jurisdictions. (Supports HM-Critical Task-1)
- **HM-MO-3:** Coordinate with the affected jurisdiction(s) to provide medical care and countermeasures. (Supports HM-Critical Task-1, HM-Critical Task-2)

- **HM-MO-4:** Reduce medical surge support and return resources to pre-incident levels. (Supports HM-Critical Task-3)

Phase 1a—Normal Operations

End State: Federal Public Health, Healthcare, and Emergency Medical Services operations plans have been tested and are readily available. (Supports HM-MO-1)

- Tasks by Phase, by ESF
 - ESF #6
 - ♦ Communicate plans, requirements, and strategies to core capability service providers.
 - ESF #7
 - ♦ Order and verify inventory levels of personal protective equipment (PPE) and other mission essential materials and supplies for response, recovery, and mitigation efforts.
 - ESF #8
 - ♦ Identify, create, develop, manufacture, and procure critical medical countermeasures; develop logistical and operational plans for optimized use of medical countermeasures at all levels of response.
 - ♦ Promote the National Health Security Strategy objectives to enhance the preparedness and resiliency of communities through preparedness grants, mitigation efforts, readiness guidance, and support in planning, training, and exercises.
 - ♦ Review and update key personnel rosters with accurate contact information.
 - ♦ Ensure communication systems between local, state, tribal, territorial, insular area and Federal departments are tested and operable.
 - ♦ Maintain deployment ready status of ESF #8 response personnel.
 - ♦ Ensure responder health protection guidance is current and readily available.

Phase 1b—Elevated Threat

End State: Trained medical personnel and equipment are inventoried for potential deployment. (Supports HM-MO-1)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 1c—Credible Threat

End State: Medical caches are ready for deployment and information exchanges with local, state, tribal, territorial, and insular area officials have occurred. (Supports HM-MO-1)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 2a—Immediate Response

End State: Medical personnel have been alerted and initial information about the incident has been collected for preliminary operational analysis. (Supports HM-MO-1)

- Tasks by Phase, by ESF
 - ESF #4
 - ♦ Provide appropriate personnel, equipment, and supplies, which are used primarily for communications and aircraft for deployed Federal Public Health, Healthcare, and Emergency Medical Services teams.
 - ESF #5
 - ♦ Begin to prepare PSMA's for processing.
 - ♦ Activate ESF #8 at the national and regional level to provide coordination and technical assistance.
 - ESF #6
 - ♦ Acquire and manage resources, supplies, and services from core capability service providers via contracts, mission assignments, IAAs, and donations.
 - ESF #7
 - ♦ Coordinate logistical support for medical teams to support field operations.
 - ♦ Coordinate all air, ground, and maritime movement of Federal resources.
 - ♦ Initiate the National Ambulance Contract for ground transportation.
 - ♦ Notify, activate, and/or deploy Execution Schedule Resources for NDMS teams.
 - ESF #8
 - ♦ Provide pre-hospital triage and initial stabilization. After establishment of the JFO, requests will go through the FCO or Operations Section Chief. The Federal health official coordinates the response and identifies the resources that will be provided.
 - ♦ Gather, assess, prioritize, coordinate, and communicate Public Health, Healthcare, and Emergency Medical Services' requirements of survivors and their household pets and service and assistance animals in congregate facilities to core capability providers.
 - ♦ Gather, assess, prioritize, and communicate relevant Public Health, Healthcare, and Emergency Medical Services' needs information to survivors in facilities where mass care services are provided through culturally and linguistically appropriate and accessible messaging.
 - ♦ Coordinate with state and FEMA regional officials in affected areas in order to determine the need for ESF #8 support and coordinate and prioritize requests for assistance.
 - ♦ Designate a Federal health official to serve as the senior HHS official in the JFO.
 - ♦ Maintain visibility of state evacuations and healthcare facility shelter-in-place and evacuation requirements.

- Receive initial mission assignments to activate ESF #8 operations and staff the ESF #8 function at NRCC and RRCCs; potentially receive mission assignments to mobilize and stage resources in preparation for response.
- Activate the NDMS to allow for deployment of personnel and provision of logistics preparations.
- Issue an Execute Order authorizing the activation of NDMS teams, verify rosters, prepare teams for travel, stage teams/personnel, and deploy ESF #8 resources.
- Activate the patient movement portion of the NDMS.
- Position response resources to support patient movement requirements, if requested, in accordance with published activation timelines.
- Determine local, state, tribal, territorial, and insular area patient transportation capabilities.
- Request activation of the National Ambulance Contract.
- Coordinate with FEMA for National Ambulance Contract support for state-level assistance.
- Increase staffing, as appropriate, including representatives from ESF #8 partner agencies and HHS representatives for various Federal Coordination Centers (e.g., NRCC, NOC).
- Establish, activate, and/or deploy the HHS IRCT to support pending tactical-level operations.
- Provide public health risk communication messages and advisories, ensuring information is accessible to the whole community including individuals with LEP and are crafted with attention to psychological and behavioral considerations to reduce stress and promote effective decision making.
- Designate HHS leadership personnel for the Initial Operating Center and JFO.
- Activate and coordinate deployment of Federal medical and public health teams, including: DoD, VA, HHS, and CDC resources.
- Activate NDMS to allow for patient movement, FCC reception, and definitive care in NDMS hospitals.
- Coordinate transportation support with DoD and other Federal agencies.
- Verify readiness status and prepare equipment sets/caches/kits for transport (including air transport) and activate associated logistic personnel or teams.
- Identify select on-call teams and place in a heightened state of awareness.
- Establish and maintain required communications and coordination links with ESF #8 partners and other Federal department and agency representatives.
- Provide HHS technical expertise in the coordination of response with international partners, countries, and multilateral organizations.
- Ascertain whether HHS will be supporting any activated IMATs.
- Issue a Warning Order to HHS Division, HHS response teams, and supporting departments and agencies notifying them of potential deployment, providing situational

- assessment information, and directing them to assume a heightened state of alert in preparation for possible ESF #8 deployment.
- ♦ Coordinate with local, state, tribal, territorial, regional, and Federal resources to conduct a rapid needs assessment of the affected area.
 - ♦ Activate and coordinate deployment of Federal medical and public health teams, including DoD, VA, and HHS resources.
 - ♦ Support local medical lifesaving and life-sustaining operations (e.g., hospitals, medical facilities, Emergency Medical Services, alternate care sites).
 - ♦ Provide status reports on team deployments and operations in the affected area.
 - ♦ Coordinate with ESF #9 to move the rescued and injured to medical facilities or alternate care sites.
 - ♦ Coordinate with ESF #6 to ensure medical requirements and support are met related to mass evacuations and shelters.
 - ♦ Coordinate with local, county, state agencies and determine their need for fatality management assistance.
 - ♦ Deploy medical caches and determine the appropriate placement of medical support resources.
 - ♦ Coordinate with local, state, tribal, territorial, insular area, and private sector hospitals in the impact zone to gain shared situational awareness regarding health and medical conditions.
 - ♦ Coordinate medical transportation support (including patient evacuation) with other Federal departments and agencies.
 - ♦ Initiate coordination of the response for communicable disease control and environmental public health hazards.
 - ♦ Execute a Public Health Emergency declaration as necessary.
 - ♦ Issue waivers or modifications under Section 1135 of the Social Security Act, as necessary when the Secretary of Health and Human Services has declared a public health emergency and the President has declared a disaster or emergency, to ensure that sufficient healthcare items and services are available to meet the needs of individuals enrolled in Medicare, Medicaid, and the Children's Health Insurance Program and to allow healthcare providers providing medical services but unable to comply with certain program requirements to be paid for their good-faith services and be exempt from sanctions for noncompliance.
 - ♦ Activate the AABB Task Force to assess current blood supply levels throughout the country.
 - ♦ Coordinate with the AABB Task Force, through the American Red Cross, to provide blood and services as needed through regional blood centers.
 - ♦ Begin daily reporting requirements for Hospital Available Beds for Emergencies and Disasters.
 - ♦ Initiate deployment actions for Epidemic Intelligence Service officers and other staff to support epidemiological investigations.

- ♦ Initiate deployment actions for food safety inspectors, as needed.
- ♦ Ascertain extent of contaminated survivor access to medical treatment facilities and impact on operational status.
- ♦ Initiate deployment actions for the on-call response teams and roster of the U.S. Public Health Service Commissioned Corps; depending on the magnitude of the disaster, recommend activating all U.S. Public Health Service Commissioned Corps deployable assets as authorized by the Secretary or delegated authorities.
- ♦ Identify national laboratories that could be used to support diagnostic activity for agent of concern.
- ♦ Initiate deployment actions for the DMAT and DMAT equipment caches.
- ♦ Initiate deployment actions for the National Veterinary Response Teams.
- ♦ Activate the HHS Disaster Behavioral Health Concept of Operations to facilitate coordination of Federal efforts concerning behavioral health.
- ♦ Convene the ESF 8 Patient Movement Coordination Cell to determine with APOES/APODS and FCCs will be used for patient evacuation and reception.
- ♦ Activate the Rapid Response Victim Registry.
- ♦ Issue Patient Movement Enabler and Federal Coordinating Center MA to DoD to allow for prestaging or aeromedical evacuation, critical care teams, and Federal Coordinating Centers.
- ♦ Issue Patient Movement Mission Assignment to DoD to begin patient evacuation, reception and movement to NDMS hospitals for inpatient care.
- ♦ Activate the Emergency Prescription Assistance Program capability to administer and provide a national network of pharmacies and sufficient personnel to address evacuee emergency prescription requirements under a mission assignment.
- ESF #11
 - ♦ Coordinate with ESF #8 on management of zoonotic disease.
 - ♦ Coordinate with ESF #8 to ensure that animal health issues (including both disease management and medical management) are supported.
 - ♦ Collaborate with HHS, DOI (U.S. Fish and Wildlife Service and U.S. Geological Survey [USGS], in particular), USDA, EPA, and DHS to deliver effective “one health” response that integrates human, animal, and environmental health.
- ESF 15:
 - ♦ Coordinate with ESF #8 on disseminating public health information to survivors. Ensure that messaging is accessible to the whole community. Identify spokespersons for ESF #8 operations.

Phase 2b—Deployment

End State: Based on information analysis, jurisdictional needs, and operational priorities, resources and personnel have been deployed to provide triage and initial stabilization of casualties. (Supports HM-MO-2, HM-MO-3)

- Tasks by Phase, by ESF
 - ESF #5
 - ♦ Provide and coordinate information with Federal department and agency partners to maintain shared situational awareness.
 - ESF #6
 - ♦ Coordinate with core capability service providers to ensure that ESF #6 service delivery locations are appropriately provisioned and operated in a safe, sanitary, secure, and timely manner.
 - ESF #7
 - ♦ Activate the National Ambulance Contract.
 - ESF #8
 - ♦ Determine appropriate medical countermeasures and non-pharmaceutical interventions and medical countermeasures distribution strategies.
 - ♦ As required, determine appropriate vaccines for development and distribution.
 - ♦ Execute appropriate vector control strategies to limit the risk of disease transmission.
 - ♦ Support individuals with disabilities with acute medical needs to obtain medical treatment and reconnection to durable medical equipment, medications, and consumable medical supplies.
 - ♦ Assess short-term medical treatment needs of incident-area population and evacuees.
 - ♦ Deploy medical caches and determine the appropriate placement of medical support resources.
 - ♦ Coordinate with local, state, tribal, territorial, insular area, and private sector hospitals (through teleconference or other established communication system) to gain situational awareness regarding health and medical conditions; key elements include:
 - Assess damage to hospitals and other key ESF #8 critical infrastructure
 - Assess status of healthcare facilities and emergency medical services
 - Develop status reports on casualties and building damage
 - Perform bed poll in all affected areas.
 - ♦ Deliver to the requesting State medical countermeasures, equipment, and supplies from the Strategic National Stockpile.
 - ♦ Evacuate and track acute medical needs patients from medical facilities and nursing homes.
 - ♦ Initiate, coordinate, and implement patient evacuation, including:
 - Determine local, state, tribal, territorial, and insular area patient transportation capabilities including availability of accessible transportation.
 - Activate NDMS.
 - Request National Ambulance Contract for ground transportation.

- When mission assigned, DoD aeromedical evacuates patients from Aerial Ports of Embarkation to Aerial Ports of Debarkation where the patients are received by Federal Coordinating Centers and transferred to NDMS civilian hospitals for inpatient care. DoD regulates patients moved on DoD transportation assets. Patient tracking data collected by DoD will be provided to the state through HHS/ESF #8.
 - Activate Federal Coordinating Centers to receive regulated patients.
- Coordinate with the state(s) to designate airports with sufficient movement on the ground to support patient evacuations.
- Employ and maintain situational awareness of ESF #8 resources.
- Coordinate with local, state, tribal, territorial, and NGO partners to determine changes in capabilities and anticipated shortfalls on public health, medical, and behavioral health needs.
- Coordinate emergency first aid.
- Coordinate emergency medical care with local, state, tribal, territorial, and insular area agencies at the staging areas and pickup points used in evacuations.
- Integrate Federal ESF #8 assets with local, state, tribal, territorial, private sector, and EMAC deployed resources.
- Coordinate response for communicable disease control and environmental public health hazards.
- Provide public health technical assistance to state health departments in the surveillance and investigation of disease outbreaks, injury, and illness and provide support to address identified public health concerns.
- Coordinate with behavioral health partners at the local, state, tribal, territorial, insular area, and Federal level to determine needs and identify appropriate services and resources.
- Provide behavioral health technical assistance to State Mental Health Authorities and State Disaster Mental Health Coordinators, convene the Federal Disaster Behavioral Health Group to promote a common operating picture, assess the need for and facilitate the provision of Federal behavioral health assets.
- Provide public health risk communication messages and advisories specific to impacted communities. These materials support local, state, tribal, territorial, and insular area risk communication efforts and support ESF #15 and the JIC messaging for press releases in alternate formats and multiple languages, as appropriate.
- Support JFO and Rapid Needs Assessment Teams to identify public health hazards associated with food safety, water quality, waste water and solid waste, vector control and other environmental health hazards.
- Coordinate with the Department of Labor (DOL)/Occupational Safety and Health Administration (OSHA) on responder safety guidance, if necessary.
- ESF #11
 - Respond to animal and agricultural health emergencies under USDA statutory authority or as mission assigned.

Phase 2c—Sustained Response

End State: Federal medical response support has supplemented local, state, tribal, territorial, and insular area efforts to provide care to those likely to survive their injuries. (HM-MO-2, HM-MO-3)

- Tasks by Phase, by ESF
 - ESF #8
 - ♦ Provide pharmacy prescription support for population (based on national average data from HHS).
 - ♦ Maintain shared situational awareness and determine need to rotate medical teams and other medical resources to allow personnel to rest and maintain capability.
 - ♦ Maintain coordination of patient evacuations.
 - ♦ When mission-assigned, HHS, FEMA, DoD, and the VA may coordinate evacuation of patients from patient collection sites (in the case of DoD—from Aerial Ports of Embarkation), to designated Federal Coordinating Centers.
 - ♦ Monitor and ensure the safety availability and logistical requirements of blood and tissues.
 - ♦ Convene the Federal Disaster Behavioral Health Group to promote a common operating picture and facilitate coordination of Federal response efforts regarding behavioral health.
 - ♦ Provide surge capability support to public health laboratories for diagnostics and confirmatory testing.
 - ♦ Deliver to the requesting state medical countermeasures, equipment, and supplies from the Strategic National Stockpile.
 - ♦ If necessary, request international medical team support through the International Assistance System.
 - ♦ Coordinate Federal healthcare providers and coordinate with states to integrate providers and any additional Federal resources with local, state, tribal, territorial, insular area, NGO, and private sector healthcare providers.
 - ♦ Coordinate with states to integrate Federal ESF #8 resources with out-of-state resources that states provide through EMAC.
 - ♦ Assist states in developing a strategy for augmenting or replacing current Federal Government resources employed in the response.
 - ♦ Provide reports on the status of medical operations and objectives to maintain a shared situational understanding and the common operating picture.
 - ♦ Conduct inspections and damage assessments of facilities and products (human drugs, biologics, medical devices, food for humans and animals, and veterinary drugs) regulated by the Food and Drug Administration.

Phase 3a—Short-term Recovery

End State: Federal medical response support has begun to transition to pre-incident levels. (HM-MO-4)

- Tasks by Phase, by ESF
 - ESF #6
 - ♦ Coordinate with local, state, tribal, territorial, and insular area governments and voluntary organizations to ensure resources are available (e.g., registration, case management, and housing).
 - ESF #8
 - ♦ Identify areas where objectives have been achieved and reposition or demobilize personnel when appropriate.
 - ♦ Begin backfill of medical support packages from Strategic National Stockpile.
 - ♦ Assist the appropriate government jurisdictions and private sector components under local government regulation and oversight to resume direct authority for operations and administration as soon as effectively possible.
 - ♦ Coordinate with local, state, and Federal behavioral health partners to identify emerging, ongoing, or unmet needs and facilitate provision of appropriate services and resources.
 - ♦ Monitor Crisis Counseling Program grants to states for disaster-related behavioral health needs in coordination with FEMA.
 - ♦ Provide technical expertise or guidance to state or local authorities as they rebuild their Public Health, Healthcare, and Emergency Medical Services infrastructures.
 - ♦ Coordinate with local, state, tribal, territorial, and insular area offices regarding the return of patients evacuated from the affected area.

Administration and Support

Each Federal department and agency will continue to maintain its roles and responsibilities under Federal laws and regulations. Each department and agency will adhere to individual activation, notification, deployment, and deactivation procedures.

If there is no Stafford Act Declaration, a request may be made for a supplemental appropriation from Congress, but there is no guaranteed reimbursement by FEMA of the cost for response missions. If HHS receives a request for support from another Federal department agency under the Economy Act, the mechanism is similar to the mission assignment process when there is a Stafford Act Declaration.

The EMAC is a national interstate mutual aid agreement that enables states to share resources during times of disaster. EMAC Articles V, IV, VII, and IX addresses primary concerns of personnel and states offering and receiving assistance. A person who holds a license, certificate, or other permit issued by any state during a disaster would be deemed licensed, certified, or permitted to render aid by a state that has declared an emergency or disaster and seeks assistance.

Table C.2-1: Public Health, Healthcare, and Emergency Medical Services Core Capability Waivers

Type	Description
Waiver	The Secretary of Health and Human Services considers declaring a Public Health Emergency for affected states which enables the Secretary of Health and Human Services to take actions such as waiving or modifying temporarily certain Medicare, Medicaid, Children's Health Insurance Program, and other Federal statutes to ensure that sufficient healthcare items and services are available to meet the needs of individual enrolled in Medicare, Medicaid, and Children's Health Insurance Program and to allow healthcare providers providing medical services, but unable to comply with certain program requirements, to be paid for their good-faith services and be exempt from sanctions for noncompliance. This 1135 waiver authority may help healthcare facilities and providers deal with surges of patients. The Secretary of Health and Human Services must declare a Public Health Emergency, and the President must declare an emergency or major disaster under the Stafford Act or National Emergencies Act before HHS may issue 1135 waivers.

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Appendix 3 to Annex C: Environmental Response/Health and Safety

Purpose

The purpose of this appendix is to describe the Environmental Response/Health and Safety core capability.

The Environmental Response/Health and Safety core capability provides for the conduct of appropriate measures to ensure the protection of the health and safety of the public and workers, as well as the environment, from all hazards in support of responder operations and the affected communities. This capability supports responder health and safety, public health, environmental health, environmental response, and protection of natural and cultural resources.

The Environmental Response/Health and Safety (EH) critical tasks are as follows:

- **EH-Critical Task-1.** Conduct appropriate measures to ensure the protection of the health and safety of the public and workers, as well as the environment, from all hazards in support of responder operations and the affected communities.
- **EH-Critical Task-2.** Assess, monitor, perform cleanup actions, and provide resources to meet resource requirements and to transition from sustained response to short-term recovery.
- **EH-Critical Task-3.** Identify, evaluate, and implement measures to prevent and minimize impacts to the environment, natural and cultural resources, and historic properties from all-hazard emergencies and response operations.

Situation

The primary mission of first responders is the health and safety of a community and its population. It is vital that personnel be trained, equipped, and available at the time of an incident to protect the health and safety of on-scene first responders. Responders may face a wide range of safety and health hazards across incident types, such as heat stress, electrical hazards, and fall hazards, hazards associated with heavy equipment use and debris, and oil, chemical, biological, or radiological hazards. In addition to meeting the health and safety needs of first responders, appropriate actions must be taken to protect public health and the environment, including natural and cultural resources.

Local, state, tribal, territorial, insular area, and Federal government agencies, NGOs, and private sector organizations with response workers at the incident location provide health and safety technical support and expertise in accordance with their department's or agency's mission and responsibilities, in coordination with DOL/OSHA.

During a catastrophic incident, there may be multiple, significant environmental, safety, and/or health hazards within an impacted area that require Federal-level support and lifesaving and life-sustaining activities. Multiple significant hazards may result in a shortage of environmental response/health and safety resources. In the event of a shortage, responders will prioritize response actions to focus on minimizing human exposure to environmental public health hazards such as contaminated food, air, water, vegetation, and sediments, and minimizing the spread of environmental contamination. In doing so, emergency responders can mitigate the risk of further exposure to harmful cascading incidents resulting from the incident.

When Federal-level support is necessary for response to an emergency or disaster, guidelines for information dissemination may be incident-dependent. For example, in the event of a terrorist attack,

or other criminal activity, information concerning potentially contaminated environments needed to protect responders and the public may be sensitive and/or classified as national security information. In such circumstances, this information can be provided by the FBI located within the Unified Command at the Incident Command Post, an FBI Command Post at the incident site, an FBI JOC Consequence Management Group, or the FEMA JFO, as appropriate.

Assumptions

General assumptions for the Response FIOP have been identified in the base plan.

Mission

Federal interagency partners will conduct health and safety hazard assessments, perform cleanup, implement measures, and disseminate guidance and resources to support the protection of the health and safety of the public and workers, as well as protection of the environment including natural and cultural resources.

Execution

Concept of Operations

Phase 1

DHS Science and Technology Directorate coordinates partnerships with academia and professional organizations, while the White House Office of Science and Technology Policy coordinates with international and domestic partners. DOS coordinates the development of pre-incident agreements and exchanges needed to permit international entities to provide personnel, resources, and coordinates the activities of other Federal departments and agencies working with international partners.

To ensure the preparedness of ESF #10 Federal environmental response capabilities, EPA and USCG, in conjunction with other Federal departments and agencies, review and update existing response plans (e.g., National, Regional, and Area plans) and standard operating procedures to incorporate best practices and lessons learned from previous incidents or exercises. They also develop PSMAs, MOUs, and IAAs, as appropriate; develop and implement personnel training programs; and update key personnel rosters with accurate contact information.

ESF #11 is tasked with the protection of natural and cultural resources and historic properties. The Department of the Interior leads this specific function of ESF #11 and coordinates with USDA and other Federal and non-federal agencies and organizations. DOI coordinates with Federal and NGO partners to provide guidance and direction in carrying out prevention, preparedness, and response activities to those environmental concerns off DOI lands and potential trust and NCH resources of concern to DOI, which could be adversely affected during preparedness, response and recovery activities. DOI maintains SOPs, PSMAs, and has developed qualifications for NCH technical specialists for registering eligible responders.

Under the Worker Safety and Health Support Annex, DOL/OSHA coordinates the Worker Safety and Health Coordination Committee, which is responsible for planning and preparedness to protect the safety of response workers for incidents requiring a coordinated Federal response.

Federal departments and agencies develop environmental response and/or health and safety training and identify resources to protect and monitor response workers and the affected populations,

establish vendor contracts, and identify other methods for procurement prior to a disaster or emergency.

Phase 2

The fire departments of local and tribal government generally provide the first response to oil and hazardous materials incidents, including conducting the environmental response and taking appropriate health and safety actions. State and territorial governments may have environmental response programs that supplement local governments for larger-scale or more complex responses. The private sector and other parties responsible for oil discharges and hazardous substance releases also have responsibilities for responding under the National Oil and Hazardous Substances Pollution Contingency Plan. For Stafford Act responses, when local and state environmental response resources are inadequate, EPA coordinates with local, state, tribal, territorial, insular area, Federal, nongovernmental, and private sector partners to determine the personnel, equipment, and resources needed for an environmental response.

EPA and USCG OSCs lead ESF #10 Federal on-scene environmental response activities, with support from partner departments and agencies. Initial efforts focus on identifying the nature and extent of oil/hazardous materials environmental contamination, and as needed, taking any immediate steps to mitigate high priority releases. The assessment of environmental contamination may include use of real-time environmental monitoring with field instruments; collecting environmental samples and analyzing them in mobile or fixed laboratories; conducting aerial overflights with aircraft capable of air monitoring for contaminants; and predictive modeling, such as atmospheric plume modeling provided by the Interagency Modeling and Atmospheric Assessment Center (IMAAC).

Environmental assessment information feeds into the overall situational awareness for the incident, and is used by appropriate entities to support decisions regarding actions needed to protect responder health and safety, public health and environmental resources (e.g., for oil/hazardous materials incidents, whether contaminated evacuation routes are safe to use and whether people should return to their homes). It is also used to determine appropriate environmental response actions and verify the effectiveness of actions taken. ESF #10 typically works through local, state, tribal, territorial, and insular area law enforcement officials to secure access to oil/hazardous materials contaminated areas. USCG may also exercise its own authorities to limit access on navigable waters.

Environmental response activities include the prevention and stabilization of oil/hazardous materials releases; the assessment of the extent of environmental contamination and options for decontamination and cleanup; the storage, treatment, and disposal of oil/hazardous materials wastes (including contaminated debris and contaminated animal carcasses); the protection of natural resources; and the provision of technical expertise to support protective actions for the general public.

DOI leads ESF #11 – Protection of natural and cultural resources and historic properties in coordination with USDA and with support from partner departments and agencies. Upon issuance of MAs and IAAs, DOI and its support agencies can leverage their technical expertise and specializations. States, tribes, and territories, or other Federal agencies, can request technical assistance with complying with appropriate environmental laws and regulations, as well as identifying, evaluating, addressing, stabilizing, sampling, assessing, or surveying natural and cultural resources. In addition, ESF #11 can be asked to coordinate with other ESFs, e.g., ESF #3 and ESF #10 on the removal of debris affecting natural and cultural resources.

ESF #11 can also respond to wildlife disease emergencies, including zoonosis. Through mapping, modeling, monitoring, testing of wildlife (terrestrial and marine), and designing sampling of

strategies for wildlife and environmental reservoirs. ESF #11 provides guidance for disease prevention, control, and eradication of zoonotic diseases in wildlife and the environment.

All Federal departments and agencies take appropriate actions to protect the safety and health of their responding workers. To ensure response worker safety during incidents requiring a coordinated Federal response, DOL/OSHA, as the Coordinating Agency for the NRF Worker Safety and Health Support Annex, coordinates technical support for response worker safety and health. As necessary, DOL/OSHA also coordinates with cooperating departments and agencies identified in the Worker Safety and Health Support Annex to most effectively support the worker safety and health needs of the incident, which may include: identification, assessment, and monitoring of worker safety and health hazards; development of site-specific Health and Safety Plans; identification of appropriate hazard controls, including PPE and the coordination and provision of incident-specific response worker training.

Phase 3a

In conjunction with the Natural and Cultural Resources Recovery Support Function (NCR RSF), coordinate with appropriate local, state, tribal, territorial, and insular area governments to determine how environmental response short-term recovery activities will integrate with long-term actions, assessing and addressing capacity gaps. Work performed through FEMA-issued mission assignments during the response phase (e.g., damage assessments) will assist in informing the mission scoping assessment prepared by the NCR RSF. In coordination with ESF #8, DOL/OSHA and the supporting departments and agencies identified in the Worker Safety and Health Support Annex support medical surveillance and monitoring efforts, as required by the incident, and evaluate the need for longer-term epidemiological follow-up and medical monitoring of response and recovery workers.

Coordinating Structure

Many ESFs support the Environmental Response/Health and Safety core capability. The ESFs that perform tasks under this core capability are summarized in Figure C.3-1. Specific tasks conducted by these ESFs are identified in the Tasks by Phase, by ESF section below.

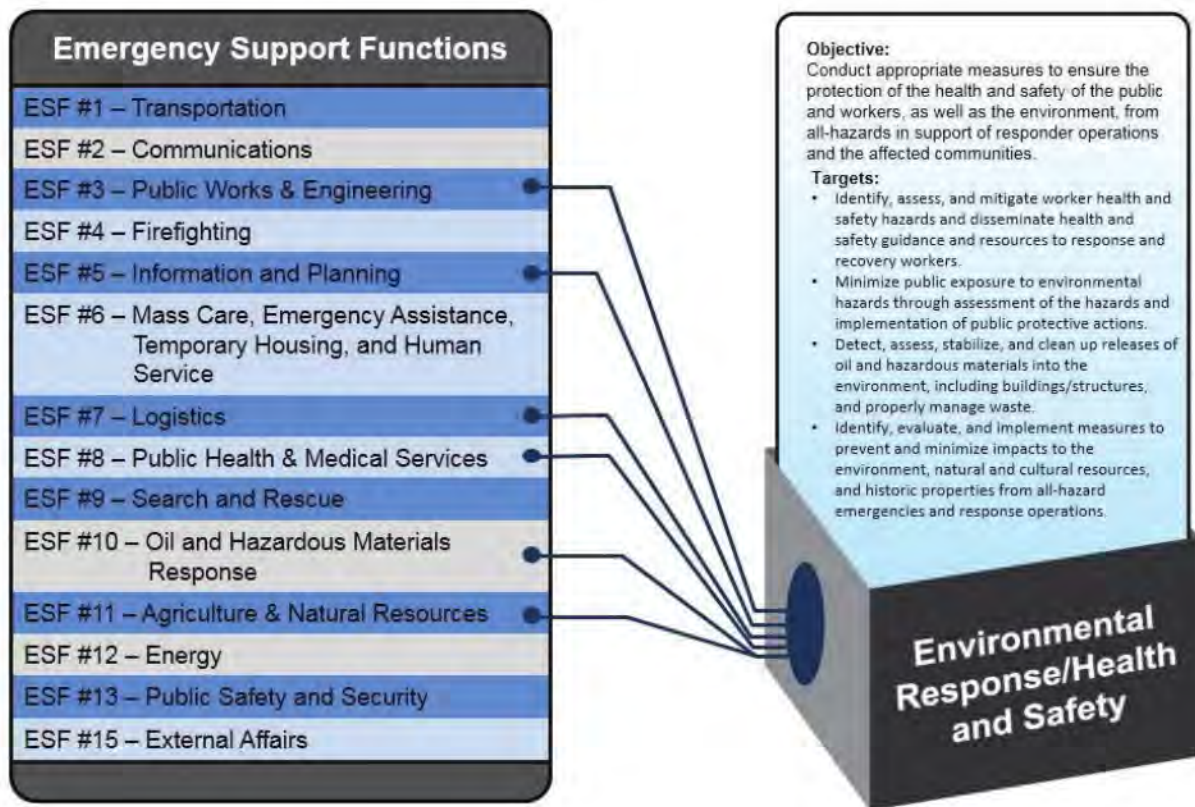


Figure C.3-1: Coordination of ESF Support to Environmental Response/Health and Safety

Environmental

EPA serves as the Primary Agency for ESF #10 actions in the inland zone, and USCG serves as the Primary Agency for ESF #10 actions in the coastal zone (as defined in Regional and Area Contingency Plans). For incidents affecting both, EPA is the Primary Agency, and USCG serves as the deputy.

The EPA/USCG regional leads for ESF #10 send representatives to the incident scene. In coordination with local, state, tribal, territorial, and/or insular area officials, the OSCs establish ESF #10 Incident Commands or Unified Commands to carry out ESF #10 assignments from the JFO UCG. EPA regional and USCG district EOCs may also be activated to provide support to the OSCs, as needed.

Regional leads for ESF #10 send representatives to the RRCC/JFO and may also send representatives to local, state, tribal, territorial, and insular area EOCs. The ESF #10 representatives at the RRCC/JFO help coordinate between the RRCC/JFO, the ESF #10 Incident Command/Unified Command activities, and EPA regional/USCG district offices. For larger-scale incidents, ESF #10 may establish an Area Command and EPA/USCG national-level EOCs may be activated to provide additional response support. Additionally, headquarters EPA/USCG ESF #10 deploys representatives to the NRCC, as requested by FEMA.

EPA and USCG OSCs may request the assistance of “special teams” as provided within the National Contingency Plan (40 CFR 300) with expertise in specific areas, when needed. In addition, EPA and USCG are supported by other Federal departments and agencies as described in ESF #10. At the field level, EPA and USCG may coordinate requests for support from these departments and agencies at the RRCC/JFO, or may activate Regional Response Teams, which are co-chaired by EPA and USCG and include representatives from ESF #10 support departments and agencies. If needed, requests for interagency support may also be elevated to the National Response Team or NRCC.

The Department of the Interior (DOI) is the Primary Agency for implementing the NCH resources component of ESF #11. As such, DOI organizes and coordinates the capabilities and resources of the Federal Government to protect NCH resources and inform long-term recovery in the event of a declared emergency or disaster requiring a coordinated federal response and when requested. When requested, ESF#11 can assist in the prevention, preparedness, planning, response, and short-term recovery phases for natural and cultural resources and historic properties and can provide support (including facilitating the delivery of services, technical assistance, and expertise) to:

- Local, state, and tribal authorities
- Other Federal agencies
- Partner organizations (as described in the ESF #11 annex).

The Office of Environmental Policy and Compliance (OEPC) is responsible for providing the NCH Primary Agency function for DOI.

Although rarely a threat to human health, the presence of animal carcasses in the incident area can create logistical challenges for response operations. The appropriate removal and disposal of animal carcasses may require coordination amongst ESFs #3, #10, and #11. Specific responsibilities for animal carcass removal are as follows: Under IAA or Mission Assignment, ESF #3 supports the removal of animal carcasses classified as debris; ESF #10 is responsible for the removal of animal carcasses that have been contaminated by oil or hazardous materials; and ESF #11 is responsible for the removal of animal carcasses infected with a foreign animal disease. ESF #8 may provide public health guidance regarding the health threats an animal carcass disposal site might pose, such as water quality or vector-spread diseases, to the state or Federal agency responsible for disposal.

Health and Safety

When FEMA is leading the Federal response efforts (i.e., typically under the Stafford Act), FEMA Safety and Health, serving as the Safety Officer within the Unified Coordination Staff, is the contact for worker safety and health in addition to its role for protecting FEMA-deployed assets. When a more extensive worker safety and health response is warranted, FEMA may mission-assign DOL/OSHA to coordinate and/or provide worker safety and health support. DOL/OSHA serves as the Coordinating Agency for the NRF Worker Safety and Health Support Annex and provides technical assistance and support to responding agencies concerning the health and safety of response and recovery workers. Additionally, the Worker Safety and Health Coordination Committee identifies and integrates potential response worker safety and health assets needed for emergency planning and preparedness. Coordinated by DOL/OSHA and comprised of representatives of the cooperating departments and agencies, the committee serves as the forum to ensure that the representatives of the occupational safety and health programs from the cooperating departments and agencies understand how worker safety and health will be provided during activations, as well as the resources available.

To ensure worker safety and health in support of the NRF Worker Safety and Health Support Annex, all departments and agencies are expected to coordinate with FEMA Safety and Health and, when activated, DOL/OSHA on the following tasks:

- Determine potential needs and identify resources for response worker safety and health support.
- Participate in the Unified Coordination Interagency Safety and Health Committee and the Worker Safety and Health Coordination Committee to facilitate coordination of the response worker safety and health program among different departments and agencies.
- Provide occupational safety and health technical advice and support, including monitoring and providing support and assistance in the monitoring of response worker safety and health hazards; and monitoring and/or providing technical assistance and support in developing, implementing, and/or monitoring an incident PPE program.
- Resolve technical or other disputes involving response worker safety and health.
- Share data among response organizations, including response worker exposure and DOL/OSHA 300 (or equivalent) accident/injury documentation.
- Participate in incident-specific response worker training.
- Provide technical assistance, advice, and support for: medical surveillance, monitoring of response workers, including exposure to toxic substances (e.g., asbestos and lead) as required by regulation; appropriate immunizations and prophylaxis for response workers; and psychological resiliency.

EPA and USCG are included among the cooperating departments and agencies under the Worker Safety and Health Support Annex and coordinate with DOL/OSHA as needed regarding worker safety and health hazards associated with oil or hazardous materials sites in the impacted area.

ESF #10 coordinates with ESF #8 regarding public health matters related to oil/hazardous materials contamination.

ESFs that provide support to the delivery of the Environmental Response Health and Safety core capability are included in the following section.

Environmental Response/Health and Safety Tasks

Mission Objectives

- EH-MO-1: Determine the appropriate environmental response actions and protective measures for response workers and recommend protective measures to the public. (Supports EH-Critical Task-1)
- EH-MO-2: Provide technical assistance to identify specific environmental risks and safety and health hazards throughout the duration of the response, develop health and safety plans, activate and deploy required environmental response/health and safety resources for responder safety. (Supports EH-Critical Task-1)
- EH-MO-3: Provide incident-specific response worker health and safety and/or other related training. (Supports EH-Critical Task-1)
- EH-MO-4: Coordinate planning and operational analysis among public, private, and nongovernmental sector services to deliver environmental response/health and safety requirements. (Supports EH-Critical Task-2)

- EH-MO-5: Analyze, prioritize, and allocate resources to identify and employ Federal resources to support operations for the delivery of Environmental Response/Health and Safety capabilities. (Supports EH-Critical Task-2)
- EH-MO-6: Alert, deploy, and stage Federal resources to support the assessment and cleanup of the environment. (Supports EH-Critical Task-2)
- EH-MO-7: Coordinate the collection and sharing of predictive modeling data, on-scene environmental, hazard, and risk assessments, and sampling and monitoring data. (Supports EH-Critical Task-1, EH-Critical Task-2)
- EH-MO-8: Provide technical assistance to identify natural and cultural resources and historic properties and assess damage and risks to the resources, when requested (Supports EH-Critical Task-3)
- EH-MO-9: Advise on appropriate and assist with implementation of protective measures to minimize impacts to natural and cultural resources and historic properties from response operations, when requested. (Supports EH-Critical Task-3)
- EH-MO-10: Coordinate planning, and information sharing among Federal and nongovernmental sector on natural and cultural resources and historic properties. (Support EH-Critical Task-3)

Phase 1a—Normal Operations

End State: Environmental response/health and safety planning, training, and outreach to public, private, and NGOs has occurred, and will be ongoing. (Supports EH-MO-4, EH-MO-10)

Tasks by Phase, by ESF

- ESF #8
 - ♦ Support the Worker Safety and Health Support Annex, provide technical assistance, and plan for the development of health exposure risk assessments and health and safety plans to control hazards for response workers.
- ESF #10
 - ♦ Coordinate between Federal departments and agencies to strengthen relationships and identify shortfalls.
 - ♦ Review, update, and exercise the following:
 - Existing response plans and standard operating procedures to incorporate best practices and lessons learned
 - Key personnel rosters with accurate contact information (e.g., special teams, EOC personnel, representatives to the NRCC, RRCC, and JFO).
 - ♦ Develop and review PSMA, MOUs, and IAAs.
 - ♦ Maintain effective communications by updating point of contact lists, verifying video teleconference and telecom capabilities, and testing information systems.
 - ♦ Develop and implement personnel training programs for environmental response.
 - ♦ Develop, maintain, and provide information on the environmental and health effects of toxic substances.

- ESF #11
 - ♦ Develop and update national animal and plant surveillance plans, as needed.
 - ♦ Develop and update catalog of resources and points of contact for natural and cultural resources.
 - ♦ Identification and registering of individuals with the necessary technical and subject matter expertise to be deployed to the NRCC or into the field to support FEMA-issued mission assignments.

Phase 1b—Elevated Threat

End State: Federal environmental response/health and safety resources are identified and inventoried, special environmental risks and safety hazards are identified to the extent possible based on available information, and personnel are trained. (Supports EH-MO-2, EH-MO-3)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 1c—Credible Threat

End State: Environmental response/health and safety resources have been readied for deployment in anticipation of support needed by response workers and the general public, and appropriate contact has been made with local, state, tribal, territorial, and insular area officials. (Supports EH-MO-1, EH-MO-4, EH-MO-5, EH-MO-6, EH-MO-7, EH-MO-10)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 2a—Immediate Response

End State: Preliminary incident-specific information has been reviewed to determine initial environmental response/health and safety response actions, including the alert, staging, allocation, and mobilization of personnel and equipment. (Supports EH-MO-1, EH-MO-2, EH-MO-3, EH-MO-4, EH-MO-5, EH-MO-6, EH-MO-7, EH-MO-8, EH-MO-9, EH-MO-10)

- Tasks by Phase, by ESF
 - ESF #7
 - ♦ Prepare and stage regional PPE (coordinate with NRCC and Logistics Management Center).
 - ♦ Provide technical assistance and support for response and recovery worker access to required PPE and the supplemental distribution of such PPE on an ad-hoc basis.
 - ESF #8
 - ♦ Provide technical assistance, advice, and support for medical surveillance and monitoring as required by regulation (e.g., asbestos and lead).
 - ♦ Provide needs assessments, technical assistance, advice, and support for short- and long-term occupational medical care and health services for response workers.

- ESF #10
 - ♦ Coordinate with FEMA and state, tribal, territorial, and insular area partners, as appropriate, in affected areas to determine needs for ESF #10 support and prioritize requests for assistance.
 - ♦ Activate Federal ESF #10 resources at the regional and, as needed, national level to provide assistance. Resources may include EPA/USCG OSCs and Incident Management Team personnel, supporting contractors, and special teams.
 - ♦ Activate EPA/USCG field and headquarters EOCs as needed.
 - ♦ Coordinate with local, state, tribal, territorial, and insular area officials, as appropriate, to identify areas of potential oil/hazardous materials releases and hazards to response personnel.
 - ♦ Utilize local, state, EPA, and USCG database information to identify potential locations of oil/hazardous materials facilities and sites that may have releases.
 - ♦ Utilize predictive modeling data on atmospheric dispersion of contaminants from the IMAAC if activated.
 - ♦ Initiate deployment of resources to the NRCC, RRCC, JFO, state/local EOCs, and impacted areas, as appropriate.
 - ♦ Initiate health and safety planning for ESF #10 field responders.
 - ♦ Initiate coordination with ESF #10 Support Agencies and other Federal partners as appropriate.
 - ♦ Implement environmental compliance and consultation requirements, as appropriate, for threatened natural and cultural resources and historic properties (NCH).
- ESF #11
 - ♦ Provide technical and subject matter experts to staff the RRCC/NRCC.
 - Organize conference calls in collaboration with the Heritage Emergency National Task Force (HENTF) and ESF #11 support agencies.
 - Utilize a national network of information and expertise to identify local, state, and tribal concerns regarding cultural and historic resources and establish situational awareness of current issues and potential unmet needs represented by the Heritage Emergency National Task Force.
 - ♦ When mission assigned, ESF #11 – Protection of Natural and Cultural Resources and Historic Properties can deploy subject matter experts to provide the following:
 - Identify, evaluate, and stabilize cultural resources in support of disaster operations.
 - Assist with museum collections, individual objects, archives and public records in support of disaster operations.
 - Survey or assist with the gathering of GIS data, aerial photography, and satellite remote sensing, in order to identify the locations of cultural resources [e.g., historic structures and districts] and natural resources [e.g., threatened and endangered species and wetlands].

- Coordinate with ESF #3 on the removal of debris (when classified as debris) affecting NCH.
- Coordinate with ESF #10 on the removal of debris affecting NCH when that debris is contaminated by oil or hazardous materials.
- Serve as the Federal lead on zoonotic and wildlife diseases through the USGS and the National Wildlife Health Center.
- Assist with environmental compliance:
 1. Section 106 of the National Historic Preservation Act
 2. Endangered Species Act, Threatened and Endangered Species Consultation
 3. Migratory Species Act, Magnuson-Stevens Act, Coastal Management Zone.
- Perform assessments and surveys to assist with planning and operational decisions (e.g., temporary housing and sheltering plans).
- Provide technical advice on mitigating impacts of contaminants, makes available environmental data archive for determining baseline conditions, and recommends clean-up actions to minimize damage to sensitive natural and cultural resources and historic properties resources from response activities.

Phase 2b—Deployment

End State: Based on initial hazard assessments, Federal technical experts, in coordination with the affected jurisdictions, have identified initial high priority environmental response activities, public protective actions, and responder health and safety protective actions. (Supports EH-MO-1, EH-MO-2, EH-MO-3, EH-MO-4, EH-MO-5, EH-MO-6, EH-MO-7, EH-MO-8, EH-MO-9, EH-MO-10)

- Tasks by Phase, by ESF
 - ESF #5
 - ♦ Activate appropriate ESFs at the national and regional level to provide coordination, technical assistance, and response to environmental/health and safety response.
 - ESF #7
 - ♦ Deploy regional PPE.
 - ESF #10
 - ♦ Ramp up deployments of ESF #10 personnel to the impacted area to provide coordination, technical assistance, and response.
 - ♦ Establish ESF #10 ICs, or Unified Commands with local, state, tribal, territorial, and/or insular area environmental response agency partners, as initial Federal resources arrive on-site. Initiate formal incident action planning and refine identification of high-priority assessment and response objectives.
 - ♦ Initiate initial high-priority actions to assess, prevent, minimize, or mitigate releases of oil/hazardous materials, as possible. Assessment may include environmental monitoring and reconnaissance to identify locations of oil/hazardous materials releases and oil/hazardous materials containers.

- Provide recommendations and available environmental assessment information to local, state, tribal, territorial, and/or insular area officials, as appropriate, to support decisions on evacuation/ingress routes and other public protective actions, if applicable.
- Provide actual site data to IMAAC as it becomes available to help refine IMAAC model, if the IMAAC is activated.
- Coordinate scientific input regarding the environmental response from local, state, tribal, territorial, insular area, Federal, private, and academic entities.
- Refine health and safety plans for ESF #10 responders and coordinate activities with Worker Safety and Health Annex as appropriate.
- Provide environmental response expertise to support ESF #15 public information activities (e.g., developing initial public messaging regarding public health hazards and environmental activities).

Phase 2c—Sustained Response

End State: Predictive modeling data has been coordinated and disseminated, comprehensive hazard and risk assessments have been performed, and sampling and monitoring data has been collected. Planning, operational analysis, and delivery of environmental response/health and safety requirements have been coordinated across public, private, and nongovernmental sectors. (Supports EH-MO-1, EH-MO-2, EH-MO-3, EH-MO-4, EH-MO-5, EH-MO-6, EH-MO-7, EH-MO-8, EH-MO-9, EH-MO-10)

- Tasks by Phase, by ESF
 - ESF #3
 - ♦ Manage, monitor, and/or provide technical advice in the demolition and subsequent removal and disposal of buildings and structures contaminated with chemical, biological, radiological, and nuclear elements, in consultation with ESF #10.
 - ESF #10
 - ♦ Conduct assessment of oil/hazardous materials releases, which may include sampling and monitoring of air, water, soil, buildings, and other infrastructure.
 - ♦ Take actions, as appropriate, to stabilize the release and prevent the spread of contamination; conduct environmental cleanup actions and decontaminate buildings and structures, and manage wastes. Coordinate options for environmental cleanup and waste management with local, state, tribal, territorial, and insular area governments, and other Federal partners, as appropriate.
 - ♦ Engage with private sector facilities that handle oil and hazardous substances to ensure that no release has occurred and that appropriate protective measures are in place to stop or minimize any potential future release.
 - ♦ Take actions, as appropriate, to collect household hazardous waste, monitor disposal of debris, sample and monitor air and water quality, and protect natural resources.
 - ♦ Coordinate public information support activities, including posting environmental data summary results on Web sites and working with environmental and public health agency partners to develop public messaging and Federal recommendations regarding the impacts of the environmental contamination and appropriate public protective actions (e.g., food/water safety, potential needs for population relocation).

- Manage staffing and resource deployments in support of response objectives, including rotation of response personnel and activation of special teams and Support Agencies in support of the ESF #10 Incident Command/Unified Command.
- Determine whether operational objectives have been achieved and assess continued need for Federal support; begin to transition any remaining environmental response activities to local, state, tribal, territorial, and/or insular area officials as they become capable of assuming responsibility; and plan for demobilization, as appropriate.
- ESF #11
 - When requested, monitor environmental conditions and response activities and conduct sampling to determine impacts on natural and cultural resources and historic properties.
 - Provide technical assistance, guidance, best management practices, and consultation on a wide range of response actions including guidance on threatened and endangered species.
 - Under a mission assignment, continue to monitor and control conditions in museum and archival collections, historic structures, and other cultural resources that pose a public or occupational health risk such as rampant mold, contaminants that remain after flood waters recede, and effects of prior pesticide applications such as arsenic.
 - Provide scientific/technical advice, information, and assistance to help prevent or minimize damage to natural and cultural resources.
 - Maintain situational awareness through our support agencies and partner organizations such as the National Archives and Records Administration and Heritage Emergency National Task Force.

Phase 3a—Short-term Recovery

End State: Appropriate plans are in place for a smooth transition to local, state, tribal, territorial, and insular area officials for any remaining environmental response activities, and any needed Federal advice on continued protection of workers have been provided. (Supports EH-MO-7, EH-MO-8, EH-MO-9, EH-MO-10)

- Tasks by Phase, by ESF
 - ESF #8
 - Evaluate the need for longer term epidemiological follow-up and medical monitoring of response and recovery workers.
 - ESF #10
 - Begin coordinating with appropriate local, state, tribal, territorial, insular area, and Federal recovery officials to determine how environmental response activities will integrate with recovery actions and how the environmental cleanup decision-making process should be coordinated with the recovery decision-making process for large-scale environmental contamination incidents.
 - Finalize plans, as possible, that describe the transition of ESF #10 Federal actions to local, state, tribal, territorial, and/or insular area entities.

- ESF #11
 - ♦ Coordinate with the Federal Disaster Recovery Coordinator and the Natural and Cultural Resources Recovery Support Function to begin the transition to long-term recovery activities.
 - ♦ Upon completion of work under response provide relevant data to the FDRC and NCR RSF. This would include reports and status of work performed under MA (e.g., damage assessment, condition reports and restoration plans, monitoring reports, surveillance plans, etc.).

Administration and Support

The Environmental Response/Health and Safety core capability will follow standard protocols for Activation, Notification, Deployment, and Deactivation with each Federal department and agency continuing to maintain its roles and responsibilities under Federal laws and regulations.

EMAC options will be utilized as needed.

MOU options will be utilized as needed.

Waivers, exceptions, and exemptions related to the delivery of the Environmental Response/Health and Safety core capability.

Table C.3-1: Environmental Response/Health and Safety Core Capability Waivers

Type	Description
Waiver	In the event of a fuel supply emergency, EPA, with the concurrence of the DOE, may temporarily waive a fuel or fuel additive requirement if doing so will alleviate the fuel supply emergency. When granted, the waiver allows use of a fuel that normally is not allowed in a particular time period or geographic area.

Appendix 4 to Annex C: Fatality Management Services

Purpose

The purpose of this appendix is to describe the delivery of the Fatality Management Services core capability.

The Fatality Management Services core capability provides fatality management services, including body recovery supporting death investigation and fatality identification, working with local, state, tribal, territorial, and insular area authorities to provide temporary mortuary solutions, sharing information with fatality management services for the purpose of reunifying family members and caregivers with missing persons/remains with minimum possible delay, and providing counseling to the bereaved.

The Fatality Management (FM) critical tasks are as follows:

- **FM-Critical Task-1:** Establish and maintain operations to recover a significant number of fatalities over a geographically dispersed area and return them to authorized persons for final disposition.
- **FM-Critical Task-2:** Establish and maintain operations to mitigate hazards from remains and facilitate care to survivors.
- **FM-Critical Task-3:** Support investigations to identify and gather evidence, for the protection of public health and safety.

Situation

Fatality Management provides a basic human need, restoring functionality to society and assisting in the transition of human, business, and societal relationships after the death of an individual. Effective fatality management protects human lives and rapidly restores the social and cultural fabric of a community.

A mass fatality incident will place extraordinary logistical, religious, cultural, and emotional demands on the affected jurisdictions. The timely, safe, and respectful disposition of the deceased is an essential component of an effective response. Accurate, sensitive, and timely communication with the public is crucial to this effort. An incident involving mass fatalities will require extensive Federal interagency support in all aspects of fatality management. Processing the scene, recovering, identifying, and determining the cause and manner of death can be lengthy and painstaking work, often complicated by the desires of families and the needs of investigative agencies. The final objectives of the fatality management process are to a) establish the death of an individual, b) return some physical remains to family or responsible party, and c) recover and return a complete set of remains for final disposition.

The management of mass fatalities includes the location, collection, documentation, retrieval, and transportation of human remains, personal effects, and evidence to the examination location or incident morgue, processing for identification of the dead, certification of cause and manner of death, release of remains to an authorized individual, final disposition, release of remains, and behavioral health assistance for the grieving.

Mass fatalities present substantial logistical demands for resources, such as cold storage space, human remains pouches, caskets, and embalming supplies. If the deceased have been contaminated

with chemical, biological, or radioactive agents, mortuary personnel will need to use special precautions and PPE to protect themselves and to prevent cross-contamination.

The location, collection, documentation, and retrieval of remains and other pertinent materials from the incident affect the speed and accuracy of fatality identification. Uncoordinated removal and transportation of the deceased to the incident morgue, without processing the scene in a deliberate, methodical manner may result in the loss of critical data that facilitates timely positive identification.

Establishing and maintaining a chain-of-custody of personal effects and other pertinent materials verifies the integrity of the evidence. Interruptions to the chain-of-custody of remains and personal effects may delay delivery services and may jeopardize personally identifiable information. To protect personally identifiable information, access rights to the remains should be limited to those who would require it for identification purposes. If such information were accessed by unauthorized personnel, it would present a risk of identity theft and medical fraud, and pose other legal concerns. The fatality management process will take a substantial amount of time to complete when the fatality count is high, human remains are dispersed, difficult to recover or fragmented and/or family members are unreachable. A large number of fatalities will result in a challenge for timely identification, notification of the next-of-kin, and provision of mortuary services. Furthermore, potential issues such as body fragmentation, a limited number of surviving family members, and the relocation of family members are also expected to slow the identification process and limit the ability to meet this objective. As a result, local, state, tribal, territorial, and insular area governments must have a plan and resources in place for the identification of remains regardless of access to surviving family members. It may be necessary to leverage the resources of various Federal departments and agencies and NGOs to successfully identify and make disposition of the remains.

Disposition of remains is a sensitive issue that, when not carried out in accordance with cultural expectations, can lead to potentially serious legal issues and negatively impact public perception and trust. To prevent legal disputes and negative public reactions, local, state, tribal, territorial, and insular area governments should have a plan in place that takes into consideration cultural and religious requirements for disposition of remains.

When dealing with the provision of mortuary services across multiple states, it is important to note that legal constraints may arise. When local, state, tribal, territorial, and insular area governments have exhausted all resources (e.g., personnel, equipment, supplies) within their means, additional resources from other parts of the country may be required. In the case of mortuary personnel, states may have different legislative requirements that bar medical personnel from providing assistance unless they obtain waivers.

In the case of a mass casualty incident resulting from suspected terrorism or other criminal activity, human remains may be deemed of evidentiary value. For suspected or actual terrorist incidents, the FBI On-Scene Commander has primary responsibility to conduct, direct, and oversee crime scenes, their security, and evidence management, including fatalities management, through all phases of the response, managed through a FBI Joint Operations Center. Joint priorities for fatalities management should be established between the Prevention and Response mission areas in these cases. As such, they will be controlled by law enforcement, crime scene management, the coroner/medical examiner, and/or the Armed Forces Medical Examiner System. The remains will be released as soon as possible, with a timely and respectful disposition to the families.

The provision of fatality management services is critical to effective response. Insufficient resources in other core capability areas may lead to cascading effects that further inhibit fatality management. For example, insufficient transportation capacity will slow/delay the movement of resources and remains. It is essential that trained mortuary personnel, equipment, and supplies are able to reach the

impacted area within a certain time frame. If the resources necessary to complete the fatality management tasks are unavailable, there will be delays in the identification of non-survivors, successfully identify and make a disposition of the remains., and the ability to provide adequate information to survivors and next-of-kin.

Assumptions

General assumptions for the Response Federal Interagency Operational Plans (FIOP) have been identified in the base plan. Assumptions specific to this core capability include:

- The movement, identification, and death certification of human remains is almost always under the jurisdiction of local, state, tribal, territorial, and insular governments. Due to lack of Federal jurisdiction, almost all fatality management support provided by the Federal Government will be in support of the local medicolegal jurisdiction.
- Current fatality management resources are sufficient to care for deceased at current fatality rate. The crude death rate in the United States is approximately 806/100,000 population, or about 22 deaths/million/day.
- Increase demand for fatality management support to local governments comes from increased fatality rate due to either a focal, sudden, catastrophic incident (e.g., transportation accident, natural disaster, etc.) or a global, prolonged, chronic increase in fatality rate (e.g., pandemic).
- Local, state, tribal, territorial, and insular area entities responsible for providing fatality management services have a limited local capacity to perform routine fatality management beyond current levels and will exhaust their resources requiring additional assistance. The Federal Government will have limited mortuary capability to support state requests for mortuary resources. Lowering the public expectations and using nontraditional means for disposition (e.g., temporary interment) may be necessary.
- The funeral industry normally interacts with survivors and family members to facilitate the identification of deceased, file necessary legal documents, transport remains, return personal effects, embalm, casket or cremate, and otherwise arrange and make final disposition. Disruption in funeral industrial infrastructure due to loss of power, transportation assets or personnel will adversely impact the timely completion of fatality management tasks.
- Local, state, tribal, territorial, and insular area entities responsible for providing fatality management services have a limited local capacity to perform routine fatality management beyond current levels and will exhaust their resources requiring additional assistance.
- Normal procedures for recovery and processing of remains may be modified due to the overwhelming number of remains, the condition of remains, or the presence of hazardous substances at the scene or on the remains or when a large number of fatalities must be managed in a resource scarce environment.

Highest priority during a response will be to preserve life. Therefore, highest priorities for mass fatality response will include:

- Relieving health care facilities of impediments to patient care caused by fatality management demands at their facilities (e.g., increased need to move, manage and store remains at their facilities).
- Mitigating health hazards caused by human remains contaminated with biological, chemical or radiological agents.

- Creating trust in affected populations by demonstrating that response efforts can care for the deceased in a culturally sensitive manner.
- Preserving evidence required for death investigation, when additional lives are in jeopardy.

Normal procedures for recovery and processing of remains may be modified due to the overwhelming number of remains, the condition of remains, the presence of hazardous substances at the scene or on the remains, or when a large number of fatalities must be managed in a resource scarce environment.

Mission

Federal interagency partners will establish and maintain requested recovery operations, morgue operations (postmortem activities), Victim identification center Operations (antemortem activities), and release of human remains/final disposition and provide counseling for the bereaved.

Execution

Concept of Operations

Phase 1

All local, state, tribal, territorial, insular area, and Federal entities verify rosters of key fatality management personnel and update them with accurate contact information and communications. Relations with local, state, tribal, territorial, and insular area fatality management services are strengthened. HHS prepares its fatality identification and family support capability with associated resources to support state requests for assistance. FEMA's Logistics Management Directorate (LMD) acquires and maintains an inventory of PPE and other fatality management mission-essential materials for Federal response, recovery, and mitigation efforts.

Phase 2

At the request of the state and when mission-assigned, HHS activates the Fatality Management Assistance Team, the Disaster Mortuary Operational Response Teams (DMORT), the Disaster Portable Morgue Units, and the victim Information Center Team, and associated equipment and supplies needed to support disaster mortuary operations in the impacted area. HHS coordinates with local, state, tribal, territorial, and insular area medical examiners or coroners, healthcare facilities and funeral industry to gain a shared situational awareness of fatality management requirements. This shared situational awareness includes: gathering information on the mortuary services requirements based upon the state reported number of fatalities, and assessing the status of mortuary facilities with remains requiring identification. The state identifies additional scene investigation personnel, remains transportation assets and storage facilities and coordinates with SAR teams for locations of fatalities found during response operations.

HHS identifies personnel through who could provide additional medicolegal death investigation personnel and resources, remains transportation and mortuary support, and could fill personnel and material requirements through other Federal and agency partners, NGOs, or private sector organizations. HHS coordinates with state and local authorities for efficient use of its victim identification resources to complement the mortuary resources deployed by local, state, other Federal departments and agencies, tribal, territorial, and insular area governments, and private sector organizations.

Phase 3a

Fatality management operations continue and include sharing information with mass care services for the purpose of reunifying family members and caregivers with missing persons/remains.

When traditional HHS and other Federal agency resources are exhausted, GSA may be tasked to provide resource support (e.g., tarps for use as body bags). Additionally, FEMA Acquisitions may be tasked to provide personnel support. Additional storage areas such as morgues and funeral homes are used to hold remains. Surge storage areas include refrigerated cars and trailers, and dry ice walls.

Depending on the magnitude of the disaster, temporary interment may be considered.

Coordinating Structure

Many ESFs support the Fatality Management Services core capability. The ESFs that perform tasks under this core capability are summarized in Figure C.4-1. Specific tasks conducted by these ESFs are identified in the Tasks by Phase, by ESF section below.

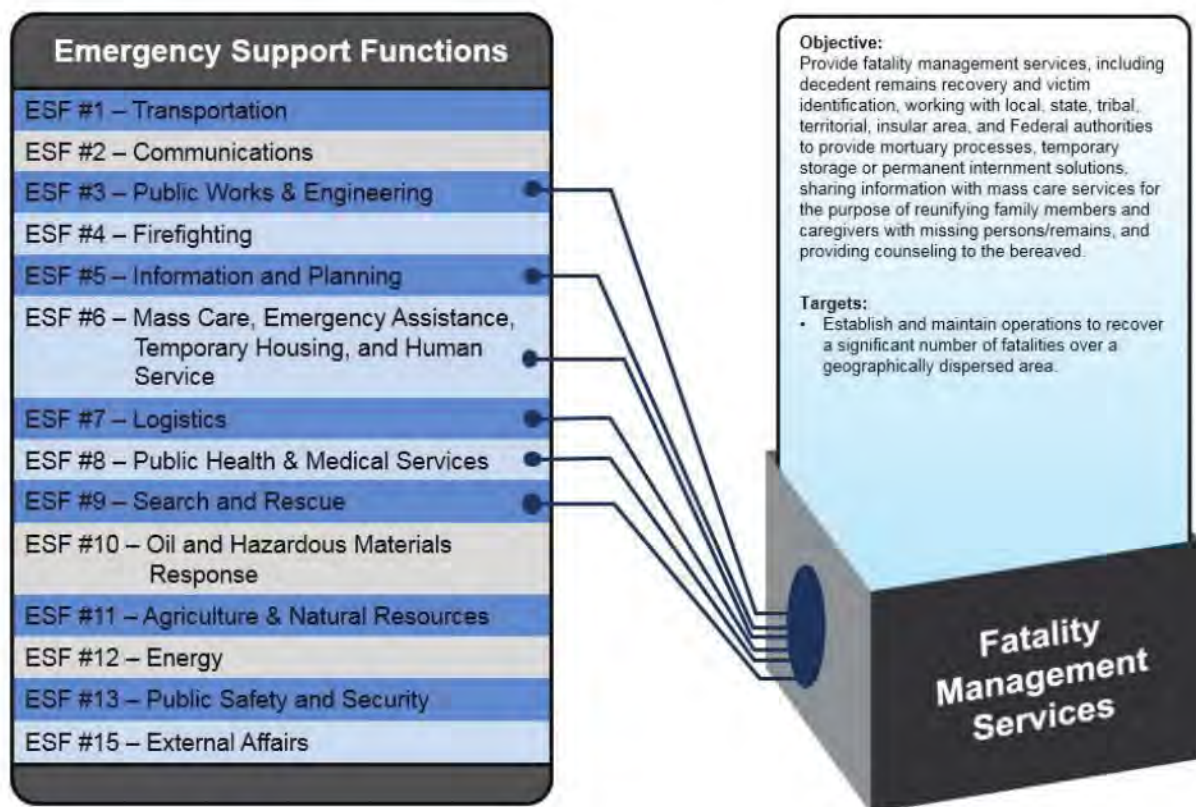


Figure C.4-1: Coordination of ESF Support to Fatality Management Services

ESF #8 provides the primary support to the delivery of this core capability with the support of other ESFs.

Federal departments and agencies support local, state, tribal, territorial, and insular area fatality management operations, which include scene management and security, investigations, search,

recovery, and identification of human remains, establishing a cause and manner of death and mortuary services equipment and supplies.

The local medical examiner/coroner or law enforcement agency have legal authority for conducting fatality identification, or assists the lead investigative agency in completing fatality identification, determining the cause and manner of death, and managing death certification. In the event of a mass fatality incident, the local medicolegal authority retains responsibility determining the cause and manner of death and releases remains and personal effects to authorized individuals for final disposition. As the authority for fatality management, local medical examiner/coroner and law enforcement retain the authority and responsibility to communicate the status of fatality management operations to the public and governmental authorities in charge. No Federal department or agency can appropriate these responsibilities. Federal interagency partners may provide support to the medical examiner/coroner to accomplish deceased identification and death certification, may not assume the authority or speak on behalf of the local jurisdictional authority with responsibility for deceased identification and certification.

If the remains are in contact with hazardous materials, the local jurisdiction coordinates with the appropriate state agency to mitigate the hazard before they are collected and processed. Appropriate Federal departments can provide guidance and technical assistance. If the fatalities are located within a Federal crime scene, the state medical examiner will coordinate with DOJ and the FBI to gain access to bodies. All crime scene activity and evidence collection will remain under the control and supervision of the appropriate law enforcement agency.

Local, state, or Federal victim identification centers—a family service facility opened following mass fatality incidents to manage missing persons in coordination with ESF #6, medical examiner/coroner affairs, provide information, give emotional support, and make available Client Support Services to family and friends of victims. HHS coordinates with DOS for communication with foreign embassies or consulates regarding the death of foreign nationals in the United States.

ESFs that provide support to the delivery of the Fatality Management Services core capability are included in the following section.

Fatality Management Services Tasks

Mission Objectives

- **FM-MO-1:** Coordinate planning and operational analysis to deliver fatality management support to the affected jurisdictions. (Supports FM-Critical Task-1)
- **FM-MO-2:** Procure and employ Federal resources, in coordination with the affected jurisdictions, to support fatality management services, including: scene management and security, management of hazards to human health associated with remains, support for medicolegal death investigation, search, recovery, and identification of human remains, determining a cause and manner of death, providing mortuary services personnel equipment and supplies, the reunification of remains with loved ones for final disposition of remains, and the provision of counseling services to the bereaved. (Supports FM-Critical Task-1, FM-Critical Task-2, and FM-Critical Task-3)

Phase 1a—Normal Operations

End State: Federal fatality management plans have been developed and exercised, resources have been procured, and inventories have been updated. (Supports FM-MO-1)

- Tasks by Phase, by ESF
 - ESF #7
 - ♦ Order and maintain an inventory of PPE and other fatality management mission essential materials and supplies for response, recovery, and mitigation efforts.
 - ESF #8
 - ♦ Enhance the preparedness of victim identification and (delete: family assistance) resources through planning, training, and exercises.
 - ♦ Review and update key fatality management personnel rosters with accurate contact information.
 - ♦ Plan, train, exercise, and organize to build, sustain, and improve operational capabilities.

Phase 1b—Elevated Threat

End State: Fatality management personnel are trained and equipped for deployment. (Supports FM-MO-2)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 1c—Credible Threat

End State: Fatality management caches and support equipment have been readied for deployment and appropriate contact has been made with local, state, tribal, territorial, insular area, and Federal officials. (Supports FM- MO-1)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 2a—Immediate Response

End State: Based on preliminary fatality estimates, and initial assessment of healthcare facility, medical examiner/coroner capabilities and funeral industry function, Federal fatality management resource requirements have been identified. (Supports FM-MO-2)

- Tasks by Phase, by ESF
 - ESF #7
 - ♦ Notify distribution centers to prepare for shipment of fatality management resources to the impacted area.
 - ESF #8
 - ♦ Activate the headquarters-level ESF #8 coordinator to support disaster mortuary operations.
 - ♦ Coordinate with ESF #7 and ESF #9 to identify and store fatalities found during response operations.

- ♦ Coordinate fatality management resource transportation support with Federal departments and agencies if commercial contract carriers are not available.
- ♦ Assist state Department of Health and medical examiner/coroner's office in determining response requirements.
- ♦ Deploy HHS personnel and other Federal personnel and equipment appropriate to the response requirements which may include Regional Emergency Coordinators, subject matter experts, or mortuary resources.
- ♦ Work with national associations of funeral directors, coroners, and medical examiners to call upon these organizations to provide additional personnel surge capacity if requested.
- ESF #9
 - ♦ Integrate fatality management Liaison Officers into the SAR incident management structure and coordinate the collection of actionable information which drives future (post-rescue) collection and recovery of human remains.

Phase 2b—Deployment

End State: Federal operations have been coordinated with and integrated into the affected jurisdictions and fatality management resources have been mobilized. (Supports FM-MO-1, FM-MO-2)

- Tasks by Phase, by ESF
 - ESF #3
 - ♦ Manage debris to facilitate fatality recovery efforts, to include establishing a system for sorting debris and recovering human remains.
 - ESF #5
 - ♦ Activate ESF #8 at the national and regional level to provide coordination and technical assistance.
 - ESF #8
 - ♦ Secure transportation to deploy the Disaster Portable Morgue Units.
 - ♦ Deploy, employ, and maintain shared situational awareness on DMORT, Disaster Portable Morgue Units, and other mortuary assistance teams.
 - ♦ Deploy mortuary caches and determine the appropriate placement of mortuary support.
 - ♦ Coordinate with local, state, tribal, territorial, and insular area partners to determine changes in capabilities and anticipated shortfalls.
 - ♦ Determine if additional resources are needed and identify and deploy appropriate personnel, as requested.
 - ♦ Coordinate with additional resources from local, state, tribal, territorial, and insular area authorities, private sector organizations, and EMAC.
 - ♦ Notify FEMA of resource shortfalls, as required.
 - ♦ Provide technical guidance regarding methods to reduce the hazard presented by chemical-, biological-, or radiological-contaminated human remains (when indicated and possible).

- Coordinate logistical support for fatality management personnel to support field operations.

Phase 2c—Sustained Response

End State: Additional mortuary support resource and personnel requirements are identified and fulfilled to maintain a sustained response. (Supports FM-MO-1, FM-MO-2)

- Tasks by Phase, by ESF
 - ESF #3
 - Provide technical engineering assistance for temporary morgues and contract support for the construction of temporary morgues. Assist with ground preparation for temporary interment of remains, when large numbers of fatalities occur and if applicable.
 - ESF #8
 - Maintain shared situational awareness and determine the need to rotate mortuary teams and other fatality management resources to allow personnel to rest and maintain capability.
 - Identify areas where objectives have been achieved and reposition or demobilize personnel when appropriate.
 - Provide reports on the status of fatality management operations and objectives to maintain a shared situational awareness and contribute to the common operating picture.
 - Coordinate with additional out-of-state resources provided through EMAC and develop a strategy for augmenting or replacing the current Federal Government resources employed in the response.
 - ESF #13
 - Provide necessary requested resources for scene and facility security for fatality management operations.
 - In jurisdictions where law enforcement delivers services in fatality management, provide necessary requested resources to augment law enforcement support to fatality management tasks (e.g., fingerprinting, DNA analysis, antemortem data, remains identification, etc.).

Phase 3a—Short-term Recovery

End State: Fatality management operations continue to support remains recovery, investigation, and identification of remains, cause and manner of death determination, release of remains for final disposition and the provision of counseling services to the bereaved. (Supports FM-MO-2)

- Tasks by Phase, by ESF
 - ESF #6
 - Provide support and funding for crisis counseling services to the bereaved as well as for local, state, tribal, territorial, and insular area crisis counseling programs.
 - Provide transportation and human services for survivors reuniting with deceased family members.

- ESF #8
 - ♦ Continue to support the local jurisdiction with Federal fatality management services. Federal support may conclude once the local jurisdiction has rebuilt their capability and can assume full responsibility for fatality management services.
- ESF #13
 - ♦ Continue to support the local jurisdiction and fatality management operations security, investigations, and remains identification activities.

Administration and Support

Each Federal department and agency will continue to maintain its roles and responsibilities under Federal laws and regulations. Each department and agency will adhere to individual activation, notification, deployment, and deactivation procedures.

Appendix 5 to Annex C: Infrastructure Systems

Purpose

The purpose of this appendix is to describe the delivery of the Infrastructure Systems core capability.

The Infrastructure Systems core capability stabilizes critical infrastructure functions, minimizes health and safety threats, and efficiently restores and revitalizes systems and services to support a viable, resilient community.

The Infrastructure Systems (IS) critical tasks are as follows:

- **IS-Critical Task-1.** Decrease and stabilize immediate infrastructure threats to the affected population, to include survivors in the heavily-damaged zone, nearby communities that may be affected by cascading effects and infrastructure systems support facilities and evacuation processing centers with a focus on life-sustainment and congregate services.
- **IS-Critical Task-2.** Reestablish critical infrastructure within the affected areas to support ongoing emergency response operations, life-sustainment, community functionality, and a transition to recovery.

Situation

Damage to infrastructure systems in the impacted area will be severe. The restoration of critical infrastructure following an incident is essential to the recovery process. When dealing with infrastructure impacted by a disaster, the primary goal is to stabilize essential functions, minimize health and safety threats, and effectively restore/revitalize systems and services to support a viable, resilient community. This includes facilitating the repair/replacement of infrastructure for oil, gas, electricity, telecommunications, drinking water, wastewater (sewage), transportation and other services. The reestablishment of critical infrastructure within the affected areas serves to support ongoing emergency response operations, life-sustainment, community functionality, and the transition to recovery. Because infrastructure systems are inherently interconnected, the impacts and considerations for response often extend beyond the political or geographic boundaries of the impact area. The interdependent nature of infrastructure systems, and the complexity of impacts, will require coordination among a broad range of stakeholders to assess, prioritize, secure and restore affected systems.

The ability to efficiently restore infrastructure and services to support a viable, sustainable community will not only aid in the recovery process, but also serve to improve resilience to and protection from future hazards. These results may be achieved through improved planning and efficiency during incident response. To ensure the restoration of robust infrastructure systems, it is necessary to decrease and stabilize immediate infrastructure threats to the affected population to include survivors in the heavily-damaged zone, nearby communities that may be affected by cascading effects, mass care support facilities, and evacuation processing centers.

If infrastructure functionality is not restored in a timely manner, negative impacts on response activities occur. When an incident occurs, it is imperative that infrastructure services are quickly restored. When this does not happen, survivors in the impacted area may leave en masse. An exodus risks straining an already damaged infrastructure and, in some cases, may prevent responders from clearing away debris from transportation routes. This produces cascading effects by impeding the ability to bring in much needed equipment, supplies, and responders to the impacted area.

Additionally, displaced populations moving to areas outside the impacted area require those unaffected regions to support and care for disaster casualties.

Another risk associated with the deterioration of infrastructure systems is the potential for resource shortages. To mitigate this risk, essential resources are prioritized. The prioritization of critical resources allows them to be conserved and stretched by restricting allocation to the most critical users (e.g., fuel for emergency responders, priority telecommunications service). Damage to electrical and communication infrastructure is of particular concern as communication is paramount during a disaster and is not sustainable without a lasting power supply. Without clear, sustainable lines of communication and the power supply to support them, the recovery process suffers as responders are unable to effectively organize their operations. As a result, the restoration of reliable and sustainable power is a priority in all response operations.

It is necessary to maintain open lines of communication between private and public sector entities. Representatives from government and the private sector must be able to communicate and collaborate with one another to prioritize essential resources and restoration requirements. Issues with communications equipment between the private and public sectors would not only impede the restoration of the infrastructure systems, but it would also have an impact on the provision of resources and support to individuals with access and functional needs, such as individuals with disabilities.

To mitigate risks that are inherent in the revitalization of infrastructure systems, plans must be developed for implementation should a disaster occur. The development of a plan for restoring and redeveloping community infrastructure that contributes to resiliency, accessibility, and sustainability is an integral part of the restoration of affected infrastructure and can help mitigate potential risks. It is vital to provide those systems that meet the community needs such as basic utilities (water and power) as quickly as possible while minimizing service disruption during restoration.

Assumptions

General assumptions for the Response FIOP have been identified in the base plan. Assumptions specific to this core capability include:

Federal resources will support the restoration of essential infrastructure as emergency needs are met.

Mission

Federal interagency partners will decrease immediate critical infrastructure threats, stabilize infrastructure, and decrease impacts within the affected areas to support ongoing emergency response operations, life sustainment, community functionality, and a transition to long-term recovery.

Execution

Concept of Operations

Critical infrastructure—those assets, systems, and networks that underpin American society—is inherently interconnected, and the community involved in managing risks to critical infrastructure is wide-ranging, composed of partnerships among owners and operators: local, state, tribal, territorial, and Federal governments; regional entities; non-profit organizations; and academia. Managing the response effort to assess, prioritize, secure and restore infrastructure from the impact of threats and hazards to physical and cyber-critical infrastructure requires an integrated approach across this diverse community.

The Nation's critical infrastructure is composed of 16 sectors that comprise assets primarily owned and operated by the private sector. Response is focused on the immediate restoration of these critical assets to facilitate effective response activities, protect survivors, and allow for a transition to recovery. As activities transition from response, the Recovery mission area integrates the capabilities of the Federal Government to support local, state, tribal, territorial, and insular area governments and other private infrastructure owners and operators in their efforts to achieve long-term recovery goals relative to the community's current and projected demands on their infrastructure system. During steady-state, the Protection mission area supports infrastructure systems and provides vital information and support during response activities.

Across all incident response phases, the infrastructure support mission follows four primary functions:

1. Assess
2. Prioritize
3. Secure
4. Restore

Infrastructure systems operations during incident response are carried out according to the ESF structure within incident operations. The infrastructure coordination and partnership structures established within the National Infrastructure Protection Plan (NIPP) support the assessment and prioritization of infrastructure systems through planning, analysis, and situational awareness through the mechanisms described in this appendix. The NIPP partnership structure provides a connection point between steady-state security and resilience activities and response operations.

This appendix sets forth the structure and processes used to manage response and short-term recovery activities, with regard to infrastructure systems, in the event of a disaster or emergency. It establishes the operational strategy and logistical procedures necessary to assess, prioritize, restore and secure infrastructure in a timely and organized fashion following a significant disaster or emergency. The overarching goal is to promote coordination of response activities, responsibilities, and resources and detail the associated tasks, to ensure the safety of personnel, facilities, and equipment. The resulting approach establishes connections between infrastructure security and resilience partnerships and capabilities, and response organizations and functions, and is flexible and scalable to ensure the continued performance of essential functions.

This appendix sets forth the structure and processes used to manage response and short-term recovery activities, with regard to infrastructure systems, in the event of a disaster or emergency. It establishes the operational strategy and logistical procedures necessary to respond to, and recover from, a significant disaster or emergency in a timely and organized fashion. The overarching goal is to promote coordination of response activities, responsibilities, and resources and detail the associated tasks, to ensure the safety of personnel, facilities, and equipment. The resulting approach is flexible and scalable to ensure the continued performance of essential functions.

Phase 1

Restoring and securing infrastructure systems is paramount to response efforts for any given incident, so advance planning and preparation are critical. Federal departments and agencies regularly coordinate and support infrastructure risk and vulnerability assessments among local, state, tribal, territorial, and insular area authorities and the private sector. This is done in cooperation with the Protection mission area, which secures, to the extent possible, public and private networks and

critical infrastructure, based on vulnerabilities identified through risk assessments, mitigation, and incident response capabilities.

Federal departments and agencies, and the private sector implement structural and nonstructural mitigation procedures, including the deployment of protective measures to eliminate or minimize risk to infrastructure. Additionally, Federal departments and agencies coordinate emergency contracting support for lifesaving and life-sustaining services including the provision of potable water, emergency power, and other emergency commodities and services. Private sector owners and operators as well as local, state, tribal, territorial, and insular area governments drive prioritizations for their jurisdictions. The applicable Federal agency can provide advice to or receive advice from private sector owners and operators and local, state, tribal, territorial, and insular area governments as to why certain infrastructure may or may not be a priority, but otherwise, play no part in the prioritization process. If they are not able to prioritize the restoration process, the Federal Government can coordinate with them to help accomplish it. The range of infrastructure sector coordination and risk management under the NIPP further guides the national effort to manage infrastructure risks, and sets the operational environment for response.

In support of this effort, the DHS National Protection and Programs Directorate provides Homeland Infrastructure Foundation-level Data, to augment State GIS for pre-incident assessments. The data is used to identify strategic locations when traditional geographic identifiers are unavailable.

Phase 2

Federal departments and agencies support the restoration of critical infrastructure by coordinating response efforts among local, state, tribal, territorial, and insular area authorities and the private sector. For example, they provide assistance in the monitoring and stabilization of damaged structures and the demolition of structures designated as immediate hazards to public health and safety. Additionally, in conjunction with local, state, tribal, territorial, and insular area authorities, Federal departments and agencies provide emergency repair of damaged infrastructure and critical public facilities (e.g., temporary power, emergency water, sanitation systems) as necessary.

FEMA and appropriate Federal partners coordinate individual industry/sector non-technical assessments (e.g., Office of Cyber and Infrastructure Analysis assessments, National Infrastructure Simulation Analysis Center assessments) and disseminate information, as required, to facilitate information-sharing. In addition, some Federal departments and agencies also develop technical assessments and provide solutions for complex restoration issues. The NIPP coordination and partnership structures support the assessment and prioritization of infrastructure systems conducted during incident operations.

Local, state, tribal, territorial, and insular area officials, in coordination with Federal interagency partners, prioritize the allocation, distribution, and installation of temporary generators and identify critical infrastructure where emergency power is required to support public health, safety, and sustainment. During the incident, FEMA utilizes public information campaigns to inform senior leaders and the general public of locations (e.g., shelters, hospitals) where temporary power generators will be available for people with specific needs (e.g., individuals with access and functional needs, such as individuals with disabilities).

Coordinating agencies activate the appropriate existing assessment capabilities, management teams, and contracts for the procurement, installation, operations and maintenance of equipment to support response efforts. DHS Office of Infrastructure Protection, in coordination with all applicable Federal departments and agencies, the JFO, and local, state, tribal, territorial, and insular area sector-specific officials, coordinates immediate and comprehensive, long-term damage assessments.

Phase 3a

Robust and accessible communications between the Federal Government and all other partners are maintained throughout the recovery process to ensure ongoing dialogue and information sharing. During this phase, coordinating agencies participate in post-incident assessments of public works and infrastructure to help determine critical needs and potential workloads to minimize the impact of service disruptions and ensure that infrastructure systems are fully recovered in a timely and efficient manner.

The Infrastructure Systems RSF is a complement to the response and short-term recovery efforts that take place under the NRF. As the ESFs demobilize, the Infrastructure Systems RSF team will facilitate long-term recovery operations. The intent of the Infrastructure Systems RSF is to ensure a seamless transition between the response and recovery phases. Upon activation, Infrastructure Systems RSF members should deploy early in the response phase to work with their ESF counterparts to shape long-term recovery actions. The Infrastructure Systems RSF focuses on four key ESFs during response operations: ESF #1, ESF #2, ESF #3, and ESF #12.

NIPP partnership and coordination structures continue to provide a conduit for supporting ESF and RSF operations with situational awareness, sector-specific and cross-sector analysis and information, and tailored analytic products in support of secure and resilient recovery efforts.

Coordinating Structure

Many ESFs support the Infrastructure Systems core capability. The ESFs that perform tasks under this core capability are summarized in Figure C.5-1. Specific tasks conducted by these ESFs are identified in the Tasks by Phase, by ESF section below.

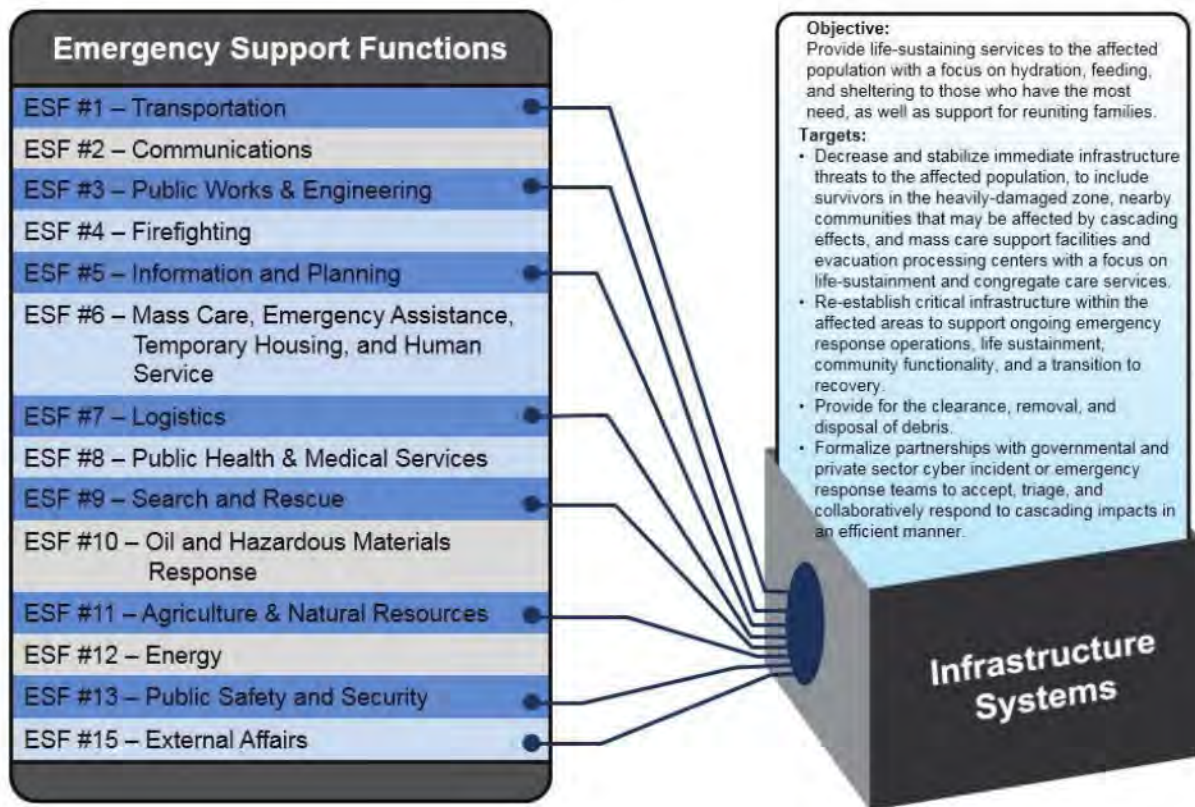


Figure C.5-1: Coordination of ESF Support to Infrastructure Systems

The Primary Agencies overseeing infrastructure systems operations are DHS, FEMA, DoD/USACE, DOE, and DOT. Infrastructure systems consist of private sector and public sector or government-owned assets, systems or networks which are so vital that their incapacity or destruction would not only have a debilitating impact on the immediate community's ability to function, but may also have state, regional, national, or international consequences, which could include impacts to national and economic security, and public health and/or safety.

ESFs are the coordination structure for response operations, but they are supported by other essential coordination structures that:

- Align infrastructure partnership and coordination to assessment and prioritization efforts
- Support public engineering services that restore and secure infrastructure systems
- Engage private sector partners in response operations.

Infrastructure Sector Support

The National Infrastructure Protection Plan establishes a partnership structure for coordination among infrastructure partners and a risk management framework to identify critical infrastructure whose loss or compromise would result in the degraded provision of essential services, such as water and power, to the public.

The DHS National Operations Center (NOC) serves as the primary National-level hub for domestic situational awareness, a common operating picture, information fusion, information sharing, communications, and operations coordination pertaining to the prevention of terrorist attacks and domestic incident management. As the infrastructure coordination element of the NOC, the National Infrastructure Coordinating Center (NICC) receives situational, operational, and incident-related information regarding the status of the Nation's critical infrastructure sectors during incidents and collects input from every Sector-Specific Agency (SSA) that is consolidated into a comprehensive report and included in National Level Reporting (NLR) and the NOC Senior Leader Brief (SLB). The Office of Cyber and Infrastructure Analysis (OCIA) Integrated Analysis Cell (IAC), which is co-located with the NICC Watch and Warning, serves as the integration and analysis function for critical infrastructure. The IAC supports the NICC and the National Cybersecurity and Communications Integration Center (NCCIC) with security and resilience strategic analysis to better understand and address incidents, threats, and emerging risks to critical infrastructure.

SSAs conduct outreach to critical infrastructure stakeholders²⁴ during incident management operations to collect and share information as part of NLR requirements. DHS/NPPD is the SSA for six of the 16 critical infrastructure sectors (Chemical, Commercial Facilities, Critical Manufacturing, Dams, Emergency Services, and Nuclear Reactors, Materials, and Waste). DHS components are the SSAs (or co-SSAs) for four sectors (Communications, Government Facilities, Information Technology, and Transportation Systems). Other Federal departments and agencies are the SSAs (or co-SSAs) for the remaining six sectors (Defense Industrial Base, Energy, Financial Services, Food and Agriculture, Healthcare and Public Health, and Water and Wastewater Systems). Each SSA is responsible for maintaining situational awareness, assessing and analyzing critical infrastructure data related to its sector, sharing pertinent information with sector partners, sharing data (as appropriate), and responding to Requests for Information (RFI) and Requests for Assistance (RFA).

Critical infrastructure security and resilience includes collaboration with local, state, tribal, territorial, and Federal government entities, and private critical infrastructure owners and operators to support information sharing by disseminating relevant critical infrastructure data to incident management and critical infrastructure partners in the public and private sectors. As outlined in the NIPP, IP manages an extensive partnership network within the Federal Government and between the Government and private sector critical infrastructure partners, through sector and cross-sector coordinating structures. DHS, private critical infrastructure owners and operators, coordinating councils, and information-sharing organizations (such as private sector Information Sharing and Analysis Centers [ISAC]) engage in intergovernmental and public-private information sharing and cooperation across the spectrum of incident management activities.

Table C.5-1 summarizes the alignment of sector coordination structures from the NIPP to ESFs and RSFs. The sector coordination structure developed under the NIPP supports the ESF structure and does not duplicate function or responsibility.

Sector Specific Agencies (SSA) that correspond to ESFs (e.g., the Energy sector) typically conduct their own analysis, and provide situational awareness and planning support through their ESF responsibilities—however, the NIPP sector coordination structures provide cross-sector and private sector coordination in support of response planning.

²⁴ For the remainder of the document, “critical infrastructure stakeholders” will be used to indicate local, state, tribal, territorial, and Federal governments and private, critical infrastructure owners and operators.

Table C.5-1: Infrastructure Sector Coordination and National Preparedness

Sector	SSA	ESF	RSF	Information Sharing Advisory Council	Sector Coordinating Council	Gov. Coordinating Council	Regional Consortia
Chemical	DHS	#10	IS	None	yes	Critical Infrastructure Cross Sector Council	Federal Consortium Coordinating Council
Commercial Facilities	DHS	none		Real Estate ISAC	yes		
Communications	DHS	#2		Telecom ISAC	yes		
Critical Manufacturing	DHS	None		Supply chain ISAC	yes		
Dams	DHS	#3		none	yes		
Defense Industrial Base	DoD	None		none	yes		
Emergency Services	DHS	#4, #5, #10, #13		Emergency Management and Response ISAC	yes		
Energy	DOE	#12		Electricity Sector ISAC, NERC	yes		
Financial Services	Treasury	None	Econ	Financial Services ISAC Financial Services-Special Operations Center	Uses separate coordinating entity		
Food & Agriculture	USDA	#11	IS	none	yes		
Government Facilities	GSA/DHS	None		none	none		
Healthcare & Public Health	HHS	#6, #8	HSS	Healthcare ISAC	yes		
Information Technology	DHS	None	IS	Information Technology ISAC	yes		
Nuclear Reactors, Materials, and Waste	DHS	#12		none	yes		
Transportation Systems	DHS	#1		Surface Transportation ISAC, Public Transit ISAC, Maritime ISAC	yes		
Water and Wastewater Systems	EPA	#3		Water ISAC	yes		

Each of the “lifeline functions” identified in the NIPP corresponds by design to an ESF. These ESFs serve as the principle analytic and operational functions for those infrastructure sectors and lifeline functions. The NICC serves as a reachback capability to support cross-sector assessment and analysis and to provide sector-specific analysis for sectors not directly aligned to an ESF, as well as to provide specialized support to ESFs, providing a connection to private sector, and sector coordination structures under the NIPP.²⁵

Table C.5-2: NIPP Lifeline Functions

Lifeline Function	ESF
Communications	ESF #2
Energy	ESF #12
Transportation	ESF #1
Water	ESF #3, ESF #12

²⁵ NIPP 2013: Partnering for Critical Infrastructure Security and Resilience

As described in Figure C.5-2 below, the NIPP coordination structures provide support to assessment and prioritization.

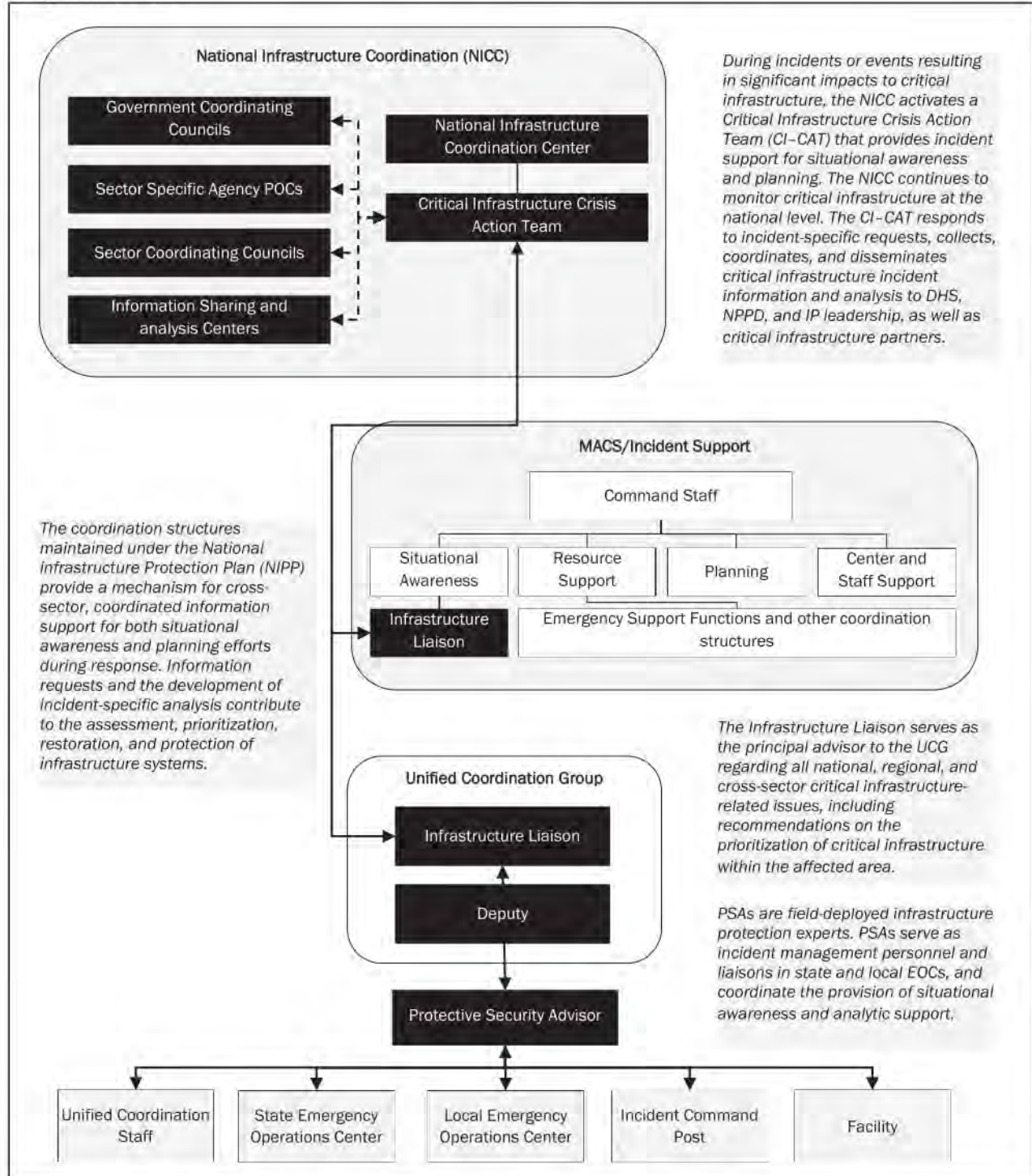


Figure C.5-2 Infrastructure Information Coordination

The following activities are performed by DHS in support of infrastructure systems:

- Deploy and employ infrastructure support specialists to the JFO(s) and state EOCs, as required, and work in coordination with relevant SSAs to assist with prioritization and provide shared situational awareness.
- The Infrastructure Liaison is the senior National Protection and Programs Directorate infrastructure representative to the JFO's UCG and serves as the principal advisor to the FCO on all critical infrastructure-related issues. The Infrastructure Liaison's primary missions are to provide the FCO with a clear picture of the status of critical infrastructure in the affected region and provide prioritized recommendations regarding affected or vulnerable critical infrastructure in support of response operations.
- Provide support to aid restoration operations based upon the priorities provided by affected local, state, tribal, territorial, and insular area partners.
- Determine the need for additional waivers and issue waivers to specific industries, consistent with applicable laws and regulations, as necessary to expedite facility restoration.
- Provide infrastructure information and analysis to support assessment prioritization, restoration and security of infrastructure.

The following activities are performed by DHS/Office of Infrastructure Protection in support of infrastructure systems:

- Deploy and employ DHS Protective Security Advisors and Infrastructure Liaisons to the JFO(s) and state EOCs, as required, and work in coordination with relevant SSAs to assist with prioritization and provide shared situational awareness.
- The Infrastructure Liaison is the senior National Protection and Programs Directorate/Office of Infrastructure Protection representative to the JFO's UCG and serves as the principal advisor to the FCO on all critical infrastructure-related issues. The Infrastructure Liaison's primary missions are to provide the FCO with a clear picture of the status of critical infrastructure in the affected region and provide prioritized recommendations regarding affected or vulnerable critical infrastructure in support of response operations.
- Provide support to aid restoration operations based upon the priorities provided by affected local, state, tribal, territorial, and insular area partners.
- Determine the need for additional waivers and issue waivers to specific industries, consistent with applicable laws and regulations, as necessary to expedite facility restoration.
- DHS also manages infrastructure asset lists and analytic tools to support assessment and prioritization of impacted infrastructure. DHS also develops national-level priorities for restoration, security of infrastructure, and recommendations for application or other high-demand/low-density assets to secure and reconstitute critical infrastructure impacted by the incident.

Restoration of Infrastructure through Private Sector Collaboration

Through ongoing planning and coordination, the private sector provides critical information to local, state, tribal, territorial, insular area, and Federal entities for incident-action planning and decision-making processes. Private sector mutual aid and assistance networks also facilitate the sharing of resources to support response and recovery. Water and Wastewater Agency Response Networks provide emergency aid and assistance in the form of personnel, equipment, materials, and other associated services from other water and wastewater utilities. DOE facilitates the restoration of damaged energy systems and components through the ESF #12 structure when activated by the

Secretary of Homeland Security for incidents requiring a coordinated Federal response. DOE also collaborates with the private sector, which owns and/or operates a large proportion of the Nation's infrastructure. Coordination with the private sector is key to ensuring the rapid restoration of infrastructure-related services.

ESF #12 is an integral part of the larger DOE responsibility of maintaining continuous and reliable energy supplies for the United States through preventive measures and restoration and stabilization actions. DOE collects, evaluates, and shares information on energy system damage and estimations on the impact of energy system outages within affected areas. Additionally, they provide information concerning the energy restoration process such as projected schedules, percent completion of restoration, and geographic information on the restoration. They also provide technical expertise to the utilities, conducts field assessments, and assists government and private sector stakeholders to overcome challenges in restoring the energy system.

Coordination of Public Engineering Services

DHS is responsible for coordinating the overall national effort to protect critical infrastructure including developing and implementing comprehensive risk management methodologies, cross-sector and cross-jurisdictional guidance, and recommending performance metrics and criteria across sectors.²⁶ Federal departments and agencies provide vital support consistent with their designated functions as ESF primary, supporting or coordinating agencies. When multiple infrastructure sectors are impacted, DHS may coordinate Federal Government capabilities to support local, state, tribal, territorial, and insular area governments and other infrastructure owners and operators' efforts to achieve recovery goals related to the public engineering of the Nation's infrastructure systems.

The Federal Government response efforts are coordinated among various departments and agencies to facilitate the delivery of services, technical assistance, engineering expertise, construction management, and other support to prepare for, respond to, and/or recover from a disaster or an incident requiring a coordinated Federal response. Private sector critical infrastructure owners and operators are responsible at the corporate and individual facility levels for business continuity planning, security and preparedness activities.

Transportation Infrastructure

DOT provides technical expertise and assistance for repair and restoration of transportation infrastructure (e.g., highways, bridges, tunnels, transit systems, port facilities, and railways) and provides advice and assistance on the transportation of contaminated materials. In addition, DOT provides engineering personnel and support to assist in damage assessment, structural inspections, debris clearing, and restoration of the Nation's transportation infrastructure. DOT also administers special funding that can be used for repair or reconstruction of major highway facilities as well as grant programs for transit systems and railroads that could be used for repair and rehabilitation of damaged infrastructure.

ESFs that provide support to the delivery of the Infrastructure Systems core capability are included in the following section.

²⁶ National Response Framework—Critical Infrastructure Support Annex, April 2012.

Infrastructure Systems Tasks

Mission Objectives

- IS-MO-1: Perform site surveys and assessments to inform resource requests, conduct analysis, and determine the prioritization of infrastructure restoration. (Supports IS-Critical Task-1)
- IS-MO-2: Coordinate with public and private sector infrastructure owners, operators, and partners to prioritize restoration activities, based on the degradation to essential infrastructure and the resources required to repair infrastructure. (Supports IS-Critical Task-2)
- IS-MO-3: Conduct planning in coordination with the public and private sectors to support incident objectives for stabilization and repair of essential infrastructure. (Supports IS-Critical Task-2)

Phase 1a—Normal Operations

End State: During the Federal recovery support operation, all public information and communications are coordinated through ESF #15 (which supports all RSFs). (Supports IS-MO-3)

- Tasks by Phase, by ESF
 - ESF #3
 - ♦ Review and update key personnel rosters with accurate contact information (e.g., FCOs, NRCC, RRCC, JFO, and special teams).
 - ♦ Continually reach out to other local, state, tribal, territorial, insular area, and Federal departments and agencies to strengthen communications and relations, in collaboration with DHS/Office of Infrastructure Protection.
 - ♦ Provide mechanisms for vertical and horizontal coordination, communications, and information-sharing on a standardized platform accessible by all partners.
 - ♦ Order and verify inventory levels of PPE and other mission-essential materials and supplies for response, recovery, and mitigation efforts.
 - ♦ Reduce or eliminate long-term risk from hazards on the existing built environment and future construction.
 - ♦ Develop focused strategies based on the most common impacts of natural disaster.
 - ♦ Review and enter into appropriate IAAs to provide Federal-to-Federal support for animal carcass removal, transportation, and disposal.
 - ESF #5
 - ♦ Coordinate assessment and prioritization support through the NIPP coordination structure (infrastructure liaisons and protective security advisors).
 - ESF #12
 - ♦ Provide analysis and modeling products, through DOE, depicting the potential impact to the electric power, oil, natural gas, and coal infrastructures; analysis of market impacts to the economy; as well as estimate of the effects that the disruption will have on other critical infrastructure.

Phase 1b—Elevated Threat

End State: Technical personnel and equipment have been identified and inventoried. Operational plans have been refined based on current information. (Supports IS-MO-3)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 1c—Credible Threat

End State: Response actions and resources have been prioritized based on existing catalogs of pre-identified critical infrastructure. (Supports IS-MO-1, IS-MO-2)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 2a—Immediate Response

End State: Based on preliminary information about the incident's impacts on critical infrastructure, immediate resource needs have been identified and coordinated across the public and private sectors. Technical personnel have been readied for deployment. (Supports IS-MO-2, IS-MO-3)

- Tasks by Phase, by ESF
 - ESF #1
 - ♦ Monitor and report the status of and damage to the transportation system and infrastructure.
 - ♦ Identify temporary alternative transportation solutions implemented by others when systems or infrastructure are damaged, unavailable, or overwhelmed.
 - ESF #3
 - ♦ Activate and deploy teams to conduct impact assessments for private/public sector assets, as requested.
 - ♦ Determine prioritization of repairs with affected local, state, tribal, territorial, and insular area entities.
 - ♦ Provide shared situational awareness and prioritized recommendations concerning the recovery and restoration of the associated critical infrastructure sectors through the Infrastructure Liaison.
 - ♦ Coordinate with other local, state, tribal, territorial, insular area, and Federal departments and agencies to determine resource allocation and conduct operations supporting the overall shared situational awareness.
 - ♦ Notify, alert, and/or initiate deployment actions for ESF #3 Management Team and Planning Response Teams for debris, temporary power, temporary roofing, infrastructure assessment, and structural specialists' cadre.
 - ♦ Activate USACE Power Generation Teams.
 - ♦ Provide emergency repair of damaged public infrastructure and critical facilities.

- ♦ Provide assistance in the monitoring and stabilization of damaged structures and the demolition of structures designated as immediate hazards to public health and safety.
- ♦ Gather, assess, and share information on energy system damage and estimations on the impact of energy system outages within affected areas.
- ESF #5
 - ♦ Coordinate assessment and prioritization support through the NIPP coordination structure (infrastructure liaisons and protective security advisors).
- ESF #7
 - ♦ Activate fuel support contract in anticipation of the establishment of FEMA ISBs/staging areas.
 - ♦ Determine location of FEMA Base Camp(s) and activate National Base Camp Contract.
 - ♦ Activate support contracts for fuels and water.
 - ♦ Inventory and identify all large-space facilities or structures near the incident venue(s) that could be made available as temporary shelters, temporary morgues, or to support mass casualty medical operations.
 - ♦ Provide information on available lease land (commercial) and Federal Government-owned properties available to support response requirements.
- ESF #8
 - ♦ Assess and prioritize healthcare facilities' (including facilities used for acute and long-term care as well as mental health facilities) reliance on power, water, and other infrastructure systems for sustaining ongoing operations.
- ESF #12
 - ♦ Assess the energy impact of the incident, provide analysis of the extent and duration of energy shortfalls, and identify requirements to repair energy systems.
 - ♦ Coordinate preliminary damage assessments in the energy sector to determine the extent of the damage to the infrastructure and the effects of the damage on the regional and national energy system.

Phase 2b—Deployment

End State: Technical personnel have been deployed to the impact area to conduct damage assessments and site surveys. Operational plans have been updated and coordinated with the public and private sectors to stabilize and repair critical infrastructure. (Supports IS-MO-1, IS-MO- 2, IS-MO-3)

- Tasks by Phase, by ESF
 - ESF #2
 - ♦ Restore communications infrastructure and provide expertise to coordinate the location of additional capabilities for response operations (e.g., electricity).

- ESF #3
 - ♦ Provide engineering and contracting/procurement personnel and equipment to assist in emergency removal of debris, demolition, and temporary repair of essential public facilities, water supply, and sanitation.
 - ♦ Plan, coordinate, and provide emergency contracting and technical assistance for animal carcass removal, transportation, and disposal support, as needed.
- ESF #5
 - ♦ Activate ESF #3 at the national and regional level to provide coordination and technical assistance.
 - ♦ Coordinate assessment and prioritization support through the NIPP coordination structure (infrastructure liaisons and protective security advisors).
 - ♦ Plan, train, exercise, and organize to build, sustain, and improve operational capabilities.
- ESF #7
 - ♦ Provide logistical support to fire and other first response services.
 - ♦ Prepare and stage power-pack generators.
 - ♦ Deploy Defense Logistics Agency fuel support to FEMA ISBs/staging areas.
- ESF #10
 - ♦ Assess the nature and extent of contamination for incidents where infrastructure is contaminated by oil or hazardous materials.
- ESF #11
 - ♦ Monitor response operations to protect sensitive natural and cultural resources, including historic infrastructure that is eligible for or listed on the National Register of Historic Places
 - ♦ Provide FEMA and other agencies with technical guidance and best management practices on mitigating impacts of operations and recommend response actions to minimize damage to NCH.
 - ♦ Coordinate with ESF #3 on the removal of debris (when classified as debris) affecting NCH.
 - ♦ Coordinate with ESF #10 on the removal of debris affecting NCH when that debris is contaminated by oil or hazardous materials.
 - ♦ Assist with the protection of natural resources in streams, rivers, and other aquatic habitations including infrastructure during post-event debris removal operations, and provide debris and wood material management and stream protection expertise in the response phase following an all-hazards incident affecting waterways.
 - ♦ Assist FEMA to identify invasive species and pathogens, federally-protected species, wetlands, fluvial features, and aquatic habitats, and provide assistance and technical expertise on stream stabilization issues.
 - ♦ Assist with the protection of natural resources, human safety, and provide technical expertise, and guidance and potential cost savings to public assistance applicants related

to infrastructure replacement (including culverts and bridge replacements) and repair including for coastal, wetland, floodplain, stream, river, or waterway restoration following inland flooding or other all-hazards incidents.

Phase 2c—Sustained Response

End State: Site surveys and damage assessments have been completed. In coordination with the private sector, activities to stabilize existing infrastructure, support facilities, and evacuation processing centers have been completed. (Supports IS-MO-1, IS-MO-2, IS-MO-3)

- Tasks by Phase, by ESF
 - ESF #3
 - ♦ Evaluate damage assessment and coordinate local, state, tribal, territorial, insular area, and private sector resources to restore critical infrastructure.
 - ♦ Determine priorities that support local, state, tribal, territorial, insular area, and Federal objectives and support private industry in meeting the objectives.
 - ESF #4
 - ♦ Provides expertise and personnel to assist with assessment of emergency services sector critical infrastructure.
 - ESF #5
 - ♦ Provide situational awareness reporting on the status of critical infrastructure to maintain the common operating picture.
 - ♦ Provide updates to the infrastructure of concern list as the incident evolves and updated information regarding infrastructure impacts becomes available.
 - ♦ Provide more detailed infrastructure analysis through the National Infrastructure Simulation and Analysis Center and in conjunction with the SSA(s), including supply chain, cascading effects, restoration priorities, and economic impact analysis.
 - ESF #10
 - ♦ Decontaminate and/or clean up infrastructure for incidents where infrastructure is contaminated by oil or hazardous materials.

Phase 3a—Short-term Recovery

End State: Repairs to critical infrastructure have been completed. Management of long-term repair and restoration of public and private sector projects have transitioned to recovery mechanisms. (Supports IS-MO-2, IS-MO-3)

- Tasks by Phase, by ESF
 - ESF #3
 - ♦ Coordinate with local, state, tribal, territorial, and insular area governments, and voluntary organizations to ensure resources are available (e.g., registration, case management, and housing).
 - ♦ Support local, state, tribal, territorial, and insular area authorities with debris management and the monitoring and assessment of stabilization and restoration activities.

- ESF #5
 - ♦ Coordinate requests for assessment and prioritization support through the NIPP coordination structure (infrastructure liaisons and protective security advisors).
- ESF #12
 - ♦ Participate in post-incident hazard mitigation studies to reduce the adverse effects of future disasters.

Administration and Support

Each Federal department and agency will continue to maintain its roles and responsibilities under Federal laws and regulations. Each department and agency will adhere to individual activation, notification, deployment, and deactivation procedures.

Table C.5-3: Infrastructure Systems Core Capability Waivers and Exemptions

Type	Description
Waiver	DOT grants special authorization under 14 C.F.R. § 375.70 to permit foreign civil aircraft to be used to carry evacuees and other persons and relief supplies without charge, to the extent those operations would not otherwise be authorized under 14 C.F.R. § 375.35.
Exemption	DOT to grant carriers licensed under 14 C.F.R. Part 125 emergency exemption authority from the provisions of U.S.C. § 4110 to allow those carriers to provide assistance in the carriage of freight and people affected by a disaster, and the transport into affected areas of relief, supplies, and personnel.

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Appendix 6 to Annex C: Mass Care Services

Purpose

The purpose of this appendix is to describe the delivery of the Mass Care Services core capability.

The Mass Care Services core capability provides life-sustaining and human services to the affected population, to include hydration, feeding, sheltering, temporary housing, evacuee support, reunification, and distribution of emergency supplies.

The Mass Care Services (MC) critical tasks are as follows:

- **MC-Critical Task-1.** Move and deliver resources and capabilities to meet the needs of disaster survivors, including people with access and functional needs.
- **MC-Critical Task-2.** Establish, staff, and equip general shelters and other temporary housing options (including accessible housing) for the affected population.
- **MC-Critical Task-3.** Move from congregate to non-congregate alternatives and provide relocation assistance or interim housing solutions for families unable to return to their residence.

Situation

After an emergency or disaster has impacted a community and its population, Mass care services and programs are implemented to assist survivors. Priorities will include providing life-sustaining services to the affected population with a focus on hydration, feeding, and sheltering. Additional resources and services may be mobilized, including support to individuals with disabilities, individuals with LEP, and others with access and functional needs, children, household pets and service and assistance animals. Family reunification and the distribution of emergency supplies may also be implemented. During mass evacuations, mass care services may also be required to support the displaced population.

Mass care services are primarily provided by local, state, tribal, territorial, and insular area departments, agencies, and NGOs. When resource requirements exceed the capabilities of these entities in affected and host jurisdictions, substantial and sustained Federal support may be requested. Federal assistance includes coordination, resource acquisition and deployment, and implementation of financial, and/or direct assistance programs. Programs may include nutrition assistance, crisis counseling, disaster unemployment assistance, legal services, case management, temporary housing, loans, relocation assistance, and other services. Other services may include the sustainment, support and management of livestock in the impacted area, which is critical to safeguarding an important source of the Nation's food supply for survivors as well as individuals in non-affected areas.

Similarly, sustainment of wildlife and zoo animals will be required to avert the potential for serious health and safety issues in impacted areas. Impacts to agriculture and food production/distribution could affect the types and duration of emergency feeding and nutrition assistance.

During a multi-state or catastrophic disaster, there may be a shortage of critical resources including commodities, food, potable water, trained personnel, warehouses, transportation, housing and other needed supplies and support resulting in competition among local, state, tribal, territorial, insular area, and/or Federal jurisdictions.

Varying local, state, tribal, territorial, insular area, and Federal authorities and regulations may further inhibit the acquisition of resources necessary to support response operations directly associated with the procurement of supplies and/or delivery of mass care services.

The provision of mass care services requires coordination across government, NGOs, faith-based organizations, and private sector entities to ensure that life-sustaining services are provided to disaster survivors in impacted and host jurisdictions. Depending on the severity of the incident and the level of response required, the integration of non-traditional responders and resources into the provision of mass care services may be necessary.

Assumptions

General assumptions for the Response FIOP have been identified in the base plan. Assumptions specific to this core capability include:

- Depending upon the number and condition of shelters in the impacted area, damage to infrastructure, access to communication and life-sustaining resources and services and other factors, there will be a need to evacuate disaster survivors to host jurisdictions.
- A significant number of disaster survivors will self-relocate rather than stay in shelters. Mass care services will need to be provided to survivors relocating to host jurisdictions.
- Impacted communities will open independent/spontaneous shelters to provide for the needs of disaster survivors, but they will lack sufficient trained staff and resources (e.g., baby formula, diapers, cots, blankets, durable medical equipment, consumable medical supplies) to support the needs of the shelter population.
- Local/state governments will plan for the affected population to remain in the impacted area, creating challenges for mass care service organizations to provide life-sustaining services and increasing health and safety concerns for survivors and responders.
- During multi-state and catastrophic disasters, limited communications and inconsistent legal requirements across jurisdictions will pose challenges for the reunification of unaccompanied minors.
- Mass care service providers will be challenged to meet the diverse cultural and dietary needs (e.g., low sodium, low fat, vegetarian/vegan, halal, kosher) of the affected population.
- The scarcity of appropriate vehicles (e.g., ambulances, paratransit, canteens, box trucks, refrigerated trucks, passenger vans/buses) to provide mass care services will hamper the delivery of life-sustaining services and the coordination of response and recovery activities to disaster survivors.
- Unaffiliated volunteers and unsolicited donations on-scene will absorb scarce resources and potentially obstruct coordinated response and recovery efforts.
- Resources to support household pets and service and assistance animals in the impacted area will be insufficient (e.g., appropriate vehicles, cages, food, and veterinary care).

Mission

Federal interagency partners coordinate and provide life-sustaining mass care resources, essential services, and statutory programs when the needs of all disaster survivors exceed local, state, tribal, territorial, and insular area resources.

Execution

Concept of Operations

Phase 1

Federal departments and agencies coordinate with local, state, tribal, territorial, and insular area governments, NGOs, and the private sector to develop operational plans, guidance, training materials and exercises; identify resource shortfalls; work together to develop innovative solutions; develop PSMA's, contracts, and acquisition mechanisms; and integrate the capabilities of non-traditional stakeholders into plans to ensure that resources, services, and programs are able to meet the life-sustaining needs of disaster survivors.

Phase 2

Initial mass care response activities, including, shelter, food, and hydration, focus on the life-sustaining needs of disaster survivors in impacted jurisdictions and are provided, managed, and coordinated at the local level. NGOs support the response by providing services under their own mission and/or harnessing the capabilities of partner organizations. When needed, Federal departments and agencies work under their own statutory authorities in coordination with local, state, tribal, territorial, and insular area governments, NGOs, and the private sector providing a broad spectrum of mass care programs and assistance during both Stafford Act and non-Stafford Act disasters.

Federal interagency partners are committed to assisting affected and host states with the support of individuals with disabilities, individuals with LEP, children, and others with access and functional needs, individuals with LEP, children, and others who require assistance through the provision of shelter, food that meets dietary requirements, durable medical equipment, consumable medical supplies, assistive technology, personal assistance services, language assistance services, reunification, behavioral health and emotional health services, disaster information, and other necessary services. Service and assistance animals remain with the person whom they are trained to assist in accordance with the Americans with Disabilities Act of 1990, as amended.

Federal departments and agencies also support the rescue, transportation, shelter, reunification, care, and essential needs of household pets displaced by disaster. This support may include technical assistance, reimbursement, acquisition of equipment and supplies, and the provision of services.

Recovery efforts are initiated concurrently with response activities. After a Presidential declaration of a major disaster, Federal departments and agencies also immediately begin working toward a seamless transition from response to recovery. Many of the Federal statutory Mass Care Services' core capability programs, from housing to financial assistance, begin to assist survivors while life-sustaining services are still being provided.

Local, state, tribal, territorial, insular area, Federal, nongovernmental, and private sector assistance is provided to eligible survivors to rebuild, repair, and replace damaged structures; replace damaged and destroyed personal property; and pay for medical/funeral expenses. Survivors complete the transition from congregate and non-congregate sheltering to interim and permanent housing solutions. Households unable to return to their pre-disaster dwellings, rebuild or relocate. FEMA and nongovernmental case management programs help survivors take practical steps to stabilize their lives in the aftermath of a disaster.

Federal departments and agencies that provide financial assistance to survivors include: DOL, Small Business Administration (SBA), Department of Housing and Urban Development (HUD), FEMA,

VA, USDA Rural Development, Internal Revenue Service, and include, but not limited to, loans and grants to individuals and communities.

Federal Human Services grant programs may be implemented, at the request of the affected state, to provide support services to survivors, including crisis counseling and disaster unemployment. For survivors who qualify for Federal assistance, other programs, including temporary housing and financial assistance, are available. This assistance is intended to help survivors transition to non-congregate sheltering or temporary housing options.

Phase 3a

The private sector and voluntary organizations provide direct support to affected and host communities through solicited and unsolicited cash and in-kind donations, including goods, services, and skilled and unskilled labor. Federal interagency partners support affected states in the management of unsolicited donations and unaffiliated volunteers. Support may include technical assistance, acquisition of equipment and supplies, coordination of government-to-government assistance, and assistance from international organizations as well as human resource support.

The Mass Care Services core capability is linked closely with two RSFs under the National Disaster Recovery Framework: Housing and Health & Social Services. FEMA works closely with the Housing RSF to coordinate the transition of survivors from sheltering and temporary housing to long term and permanent housing as quickly as possible. FEMA also coordinates closely with the Health & Social Services RSF to ensure continuous support for social services needs in the impacted communities.

Coordinating Structure

Many ESFs support the Mass Care Services core capability. The ESFs that perform tasks under this core capability are summarized in Figure C.6-1. Specific tasks conducted by these ESFs are identified in the Tasks by Phase, by ESF section below.

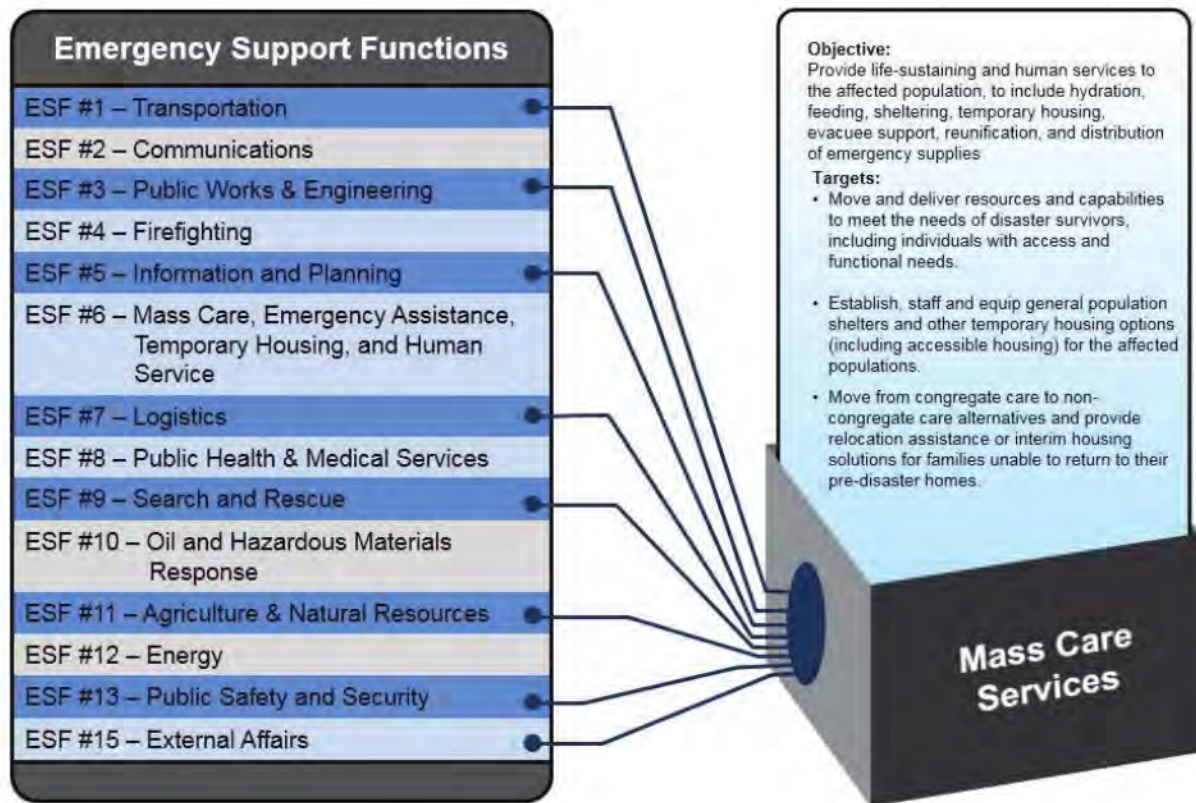


Figure C.6-1: Coordination of ESF Support to Mass Care Services

ESF #6 at the NRCC relies on reports and information from the RRCC, which in turn collects data from state EOCs and other field units, such as IMATs, as well as from NGOs and the private sector, to collectively develop shared situational awareness and a common operating picture, determine mission priorities, and meet resource shortfalls. ESF #6 also distributes operational information to Support Agencies and other ESFs to foster an integrated response.

FEMA coordinates Federal response and recovery operations with whole community mass care providers from local, state, tribal, territorial, and insular area governments, other Federal departments, agencies, voluntary organizations and the private sector. In conjunction with the American Red Cross and National VOAD, FEMA supports the mobilization of NGOs and private sector partners for the provision of mass care services during a response.

Mass care, emergency assistance, temporary housing, and human services agencies and organizations at the local, state, tribal, territorial, insular area, and Federal levels work together to provide life-sustaining assistance to disaster survivors. The four primary functions of ESF #6 are Mass Care, Emergency Assistance, Temporary Housing, and Human Services.

Mass Care

- Sheltering
 - Congregate Sheltering

If requested by an affected state within a declared area, FEMA can provide additional sheltering resources, capacity and capability. Using contracted resources, FEMA can set up, operate, manage, and maintain facilities capable of sheltering, feeding, and providing other support services for disaster survivors, service and assistance animals, and household pets. Additional shelter capacity may be added through collaboration with other Federal departments and agencies and the Corporation for National and Community Service, and with faith-based, community, nonprofit, and private groups.

Shelter providers should ensure that the life-sustaining needs of residents are met, including making necessary accommodations to support the needs of individuals with disabilities, individuals with LEP, and others with access and functional needs. Shelters should also be staffed with private security guards or local enforcement agents 24/7 to provide a safe environment for residents.

FEMA will utilize its ESF 6-A (formerly FEMA's National Shelter System – NSS) to identify, track, analyze and provide reporting on congregate sheltering facilities. As an operational tool, the ESF6 – Support System provides local, state, tribal, territorial, insular area, and Federal emergency managers with the ability to manage and share sheltering information and feeding activities.

As the ESF #6 Coordination Agency, FEMA will collaborate with the ESF #, Mass Care Co-Lead, American Red Cross (ARC) and reflect information from the American Red Cross National Shelter System (NSS) and FEMA's ESF #6 – Support System (formerly FEMA's National Shelter System – NSS) to identify, track and analyze and provide reporting on a range of Mass Care/Emergency Assistance (MC/EA) activities, such as congregate sheltering facilities. As operational tools, the ARC NSC and ESF#6 – Support System will support developing comprehensive situational awareness and reporting capabilities in support of local, state, tribal, territorial, insular area, and Federal emergency managers with the ability to manage and share information on the range of MC/EA services (e.g. sheltering, feeding activities, distribution of emergency supplies, reunification).

- **Non-congregate/Transitional Sheltering**

When traditional sheltering is not available or feasible, or the impact of the disaster is of such magnitude that extended shelter operations are required, FEMA may be able to provide resources and technical assistance in support of affected and host local, state, tribal, territorial, and/or insular area governments, and voluntary organizations. Non-conventional/transitional sheltering options include:

- ♦ Hotels/motels
- ♦ Soft-sided non-congregate units and similar facilities
- ♦ Dormitories
- ♦ Pre-fabricated and modular facilities
- ♦ Recreational vehicles/campers
- ♦ Berthing vessels
- ♦ Campgrounds

- Shelter-in-place.

Public authorities may instruct individuals to shelter-in-place, particularly in the event of an accidental or intentional release of hazardous materials, such as radiological, biological, or chemical contaminants. Federal ESF #6 support may include the provision of food, hydration, hygiene kits and/or services, prophylaxes, and information.

- Feeding

If requested by an affected state within a declared area, FEMA can provide supplemental feeding services at fixed sites, distribution sites, and through mobile feeding units. Feeding services may include hot or shelf-stable meals, infant formula, baby food, snacks, beverages, and food packages, as well as diverse dietary meals (e.g., low sodium, low fat, vegetarian/vegan, halal, kosher). ESF #6 works in concert with Food and Nutrition Service and with local, state, tribal, territorial, and insular area governments, voluntary organizations, and the private sector to acquire, prepare, cook, and/or distribute food and food supplies. Additional support may include the provision of technical assistance for the development of state feeding plans. The Food and Nutrition Service may also authorize a state's request to implement the Disaster Supplemental Nutrition Assistance Program (D-SNAP) to assist survivors.

- Hydration

ESF # 6 coordinates closely with ESF #7 to identify hydration and water requirements and to fulfill them. Hydration is a critical need that requires the whole community to ensure that distribution of appropriate liquids will reach the entire affected population and sustain life. Additional individual filtration devices and equipment may be purchased by designated departments or agencies, as directed, for the distribution of potable water to disaster survivors. Additional water will be necessary for portable showers and sanitation units at individual shelter and feeding sites.

- Reunification

After a Presidentially declared major disaster or emergency, the Federal Government supports reunification at the local, state, tribal, territorial, and/or insular area levels with technical assistance, including the deployment of reunification teams, at the request of the state. Systems, such as the National Emergency Family Registry and Locator System (NEFRLS) and/or the provision of equipment and supplies, may also be provided to affected jurisdictions to facilitate reunification. NGO systems, such as the American Red Cross Safe and Well program and social media sites, also provide tools to facilitate reunification.

Reunification of adults is supported by NEFRLS. Reunification of unaccompanied minors with their parent(s)/legal guardian is a local/state responsibility. Federal ESF #6 provides mechanisms to support the reunification of unaccompanied minors, age 21 and younger, with their parent(s)/legal guardian after a declared incident. Federal assistance includes the deployment of National Center for Missing & Exploited Children Team Adam reunification teams and implementation of a toll-free hotline, as well as provision of information to the public about additional resources available. ESF #6 also coordinates closely with ESF #8 and the National Center for Missing & Exploited Children to facilitate the reunification of pediatric patients displaced as a result of a disaster.

The agency with legal responsibility for the care of unaccompanied minors varies among jurisdictions and states. It is critical for response personnel to identify the agency responsible for the temporary care of unaccompanied minors in the aftermath of a disaster.

FEMA and its whole community partners developed the Post-disaster Reunification of Children: A Nationwide Approach document to enhance the safety and security of children following a catastrophic incident.

- **Distribution of Emergency Supplies**

ESF #6 acquires and facilitates the delivery of life-sustaining resources as well as hygiene and clean up items to meet the urgent needs of disaster survivors. Points of distribution (POD) established in coordination with local, state, tribal, territorial, insular area, and Federal governmental entities, voluntary agencies, and other private sector organizations within affected area(s) provide these items to survivors. Additional support includes transportation, warehousing, equipment, technical assistance, and other mission-critical services.

Emergency Assistance

- **Children Support**

ESF #6 provides support for the physical, behavioral, and emotional needs of children during disasters. Assistance can include the provision of infant/toddler supplies, including infant formula, baby food, diapers, and other life-sustaining resources; reimbursement to states, tribal nations, territories, and insular areas for childcare services; and behavioral and emotional support.

- **Voluntary Agency Coordination**

Before and during disasters, Voluntary Agency Liaisons (VAL) build relationships with voluntary, faith- and community-based organizations to provide and share information and guidance on Federal and state assistance programs. VALs also help to enhance relationships among all levels of emergency management and the private sector and assist communities in the establishment of long-term recovery groups.

In coordination with National VOAD, state VOAD, and other local and national NGOs, VALs provide subject matter expertise and program information in order to assist the locals in developing recovery strategies for disaster survivors and impacted communities. Additionally, VALs assist in the coordination of local, state, national, and international voluntary organization response on behalf of FEMA to minimize duplication of benefits and services and maximize Federal financial assistance programs.

- **Donations and Volunteer Management**

FEMA provides technical assistance to help impacted states to manage unaffiliated volunteers, unaffiliated organizations, and unsolicited donated goods.

The Federal Government encourages local, state, tribal, territorial, and insular area governments to coordinate with NGOs, volunteer centers, and private sector entities through local VOAD to participate in preparedness activities including planning, establishing appropriate roles and responsibilities, training, and exercising.

During disasters, FEMA supports states in activating plans, messaging and software to facilitate connections between donors and recipient organizations and deploys teams to coordinate the management and flow of unsolicited goods and unaffiliated volunteers.

FEMA also helps states to:

- Establish a hotline/call center operation to support the processing of donations offers
- Set up warehouses to store unsolicited donated goods

- Set up Volunteer Reception Centers to process unaffiliated volunteers
- Develop public messaging to educate individuals and the private sector on effective and appropriate ways to volunteer and donate.

- Support for Access and Functional Needs

ESF #6, as provided for in the Rehabilitation Act of 1973, American with Disabilities Act of 1990, and the Architectural Barriers Act, coordinates and provides equipment, supplies, and services to help with disabilities and also assists others with access and functional needs to maintain their independence in congregate facilities. Services include technical assistance, deployment of assessment teams, personal assistance service providers, durable medical equipment, and consumable medical supplies and may also include temporary retrofitting of facilities.

- Mass Evacuee Support

During mass evacuations, mass care services may be provided to evacuees at points of collection, embarkation, and debarkation, along the evacuation route, at transportation hubs, reception processing sites, shelters, and other locations. Local, state, tribal, territorial, and insular area jurisdictions activate and execute evacuation protocols for impacted populations, including individuals with access and functional needs, such as individuals with disabilities, individuals who are institutionalized, tourists, visitors, and foreign students to ensure that lifesaving and life-sustaining services are provided. Federal evacuee support to affected and host jurisdictions includes the provision of mass care services and support for tracking the movement of evacuees, their household pets and/or service and assistance animals, luggage, and medical equipment throughout all phases of the evacuation. Resources are deployed to support affected and host jurisdiction evacuation operations, to include National Mass Evacuation Tracking System kits and staff to provide technical assistance. In coordination with ESF #8, provides mass care services to medical patient evacuees.

- Animal Response

During disasters and emergencies, local, state, tribal, territorial, insular area, and Federal departments, agencies and NGOs identify and coordinate the provision of care to animals, including household pets, service and assistance animals. FEMA and USDA mobilize and coordinate resources, including technical assistance to affected jurisdictions. This support may be achieved through scalable and flexible integration of animal issues into the Multiagency Coordination System. USDA Animal and Plant Health Inspection Service (APHIS) assists in coordinating with nonprofit and private organizations and government departments or agencies to support the rescue, care, shelter, and essential needs of animals, including household pets, service and assistance animals. Government, NGOs, and private sector partners work together to share data and resources, as well as to ensure that social media are utilized to facilitate reunification of household pets and other animals.

- Temporary Roof Repair

Provides quick repairs to damaged roofs on private homes. This assistance allows residents to return to and remain in their own homes while performing permanent repairs.

Temporary Housing

Federal housing assistance is provided to eligible survivors after a Presidential declaration of major disaster for Individual Assistance through the FEMA, SBA, HUD, USDA-Rural Development, and VA.

Survivors may be eligible for a rental stipend or government-provided temporary housing unit (THU) grants and loans may be awarded toward home repair or home replacement if not covered by insurance. Additionally, direct or financial assistance may be provided toward home construction.

Survivors moving from temporary to permanent housing may be eligible for relocation assistance under the Relocation Assistance Program.

FEMA programs and resources that may enable survivors remain on or near their damaged home/property include:

- Repair Program: Provides grants to repair disaster-caused damage not covered by insurance to make the damaged home safe, secure, and functional.
- Replacement Program: Provides funds up to the program limit for home replacement.
- Temporary Housing: Provides funds for eligible survivors to rent an alternate place to live or for a THU when rental properties are not available.
- Existing Temporary Housing Resources: A centralized location for identified available temporary housing resources from the private sector and other Federal departments and agencies (e.g., HUD, VA, and USDA properties).
- Rental Assistance: Provides financial assistance to individuals and families for rental of temporary accommodations.
- Transportation to Other Locations: Provides assistance to relocate individuals and families outside of the disaster area, where short- or long-term housing resources are available. Transportation services may include return to the pre-disaster location.
- Semi-permanent or Permanent Housing Construction: Provides financial or direct assistance to construct permanent or semi-permanent housing.
- Direct Housing Assistance: Provides THUs on private sites, commercial parks, or other temporary group sites. The direct housing program is activated when the disaster impacts a disproportional number of dwellings in one or more areas of the affected communities and no other housing solution is available within a reasonable distance from their pre-disaster address. This program involves the provision of THUs. Units provided are appropriate to the needs of the community and include units accessible to those with disabilities and others with access and functional needs.
- Multi-family Repair Program: Provides funding for the repair of multi-family housing for the purpose of housing disaster survivors when there is a shortage of housing resources available and doing so is cost-effective compared to providing other forms of temporary housing.

Human Services

- Disaster Case Management Program

Disaster case management helps survivors manage the recovery process by providing time-limited, one-on-one assistance to develop and implement an individual disaster recovery plan.

The case manager provides a single point of contact to a broad range of resources, and, when necessary, serves as an advocate for the survivor.

- **Other Needs Assistance**

FEMA applicants may receive grants for income-qualified uninsured, necessary and serious needs caused by the disaster. This includes medical, dental, funeral, personal property, transportation, moving and storage, and other critical needs assistance expenses.

- **Disaster Legal Services**

The American Bar Association Young Lawyers Division offers Disaster Legal Services to help survivors with bankruptcy, civil rights, employment law, landlord-tenant law, FEMA benefits claims, wills, trusts, and probate matters, among other issues potentially arising from disaster.

- **Disaster Unemployment Assistance**

DOL provides unemployment benefits and re-employment services to individuals who have become unemployed because of major disasters. These benefits are made available to individuals not covered by other unemployment compensation programs.

- **Physical, Emotional, Behavioral, and Mental Health Programs**

Crisis counseling, mental health assistance and other similar programs provide immediate, short-term psychological assistance to disaster survivors. These services help survivors to relieve grieving, stress, or mental health problems caused or aggravated by a disaster or its aftermath. Assistance provided is short-term and is at no cost to the disaster survivor.

HHS may augment existing Federal resources for emotional, behavioral, and mental health needs through partnerships with a variety of nonprofit organizations, industry associations, and religious organizations.

ESFs that provide support to the delivery of the Mass Care Services core capability are included in the following section.

Mass Care Services Tasks

Mission Objectives

- **MC-MO-1:** Support the integration and implementation of operational plans among public, private, and nongovernmental sectors to deliver mass care services. (Supports MC-Critical Task-1)
- **MC-MO-2:** Coordinate, alert, and deploy Federal mass care resources to support the staffing and equipping of general population shelters and other temporary housing options (including accessible housing) for the affected population. (Supports MC-Critical Task-2)
- **MC-MO-3:** Coordinate with public, private, and nongovernmental partners to gain and maintain shared situational awareness and identify resource and personnel requirements. (Supports MC-Critical Task-1)
- **MC-MO-4:** Analyze, prioritize, and allocate Federal resources to support mass care operations. (Supports MC-Critical Task-1)
- **MC-MO-5:** Coordinate the provision of reunification services to reunite family members and caregivers with those missing as a result of the incident. (Supports MC-Critical Task-3)

- **MC-MO-6:** Identify non-congregate housing alternatives and facilitate transition from congregate facilities, including the provision of relocation assistance or interim housing solutions for families unable to return to their pre-disaster homes. (Supports MC-Critical Task-2, MC-Critical Task-3)

Phase 1a—Normal Operations

End State: Personnel have been trained, mass care plans have been developed and reviewed, and commodities and services have been procured and inventoried. (Supports MC-MO-1)

- Tasks by Phase, by ESF
 - All
 - ♦ Review regional and state evacuation and mass care operational plans.
 - ♦ Review existing contracts to determine if they meet projected mass care services requirements.
 - ♦ Participate in ESF #6 coordination calls.
 - ♦ Ensure that resources and assets are mission-ready to support mass care services activities.
 - ESF #1
 - ♦ Monitor ground and air traffic and determine potential evacuation routes.
 - ESF #3
 - ♦ Prepare for potential public works and engineering requirements, including providing public information, gathering information, securing staff for response teams, leveraging technological tools, reviewing contracts and agreements, and working with ESF #6 in the coordination of voluntary organizations and other NGO partners.
 - ESF #6
 - ♦ Build national mass care capacity and capability through the provision of technical assistance to local, state, tribal, territorial, and insular area governments. Identify shortfalls and develop plans, guidance, training, and exercises to fill gaps.
 - ♦ Expand national mass care services capabilities by entering into memoranda of agreement/understanding (MOAs/MOUs), IAAs, mission assignments, cooperative agreements, and contracts with traditional and non-traditional providers.
 - ♦ Review Policy Fact Sheet packages to ensure accuracy and applicability.
 - ♦ Coordinate among all ESF #6 components, Mass Care, Emergency Assistance, Temporary Housing and Human Services to ensure that full, efficient, and timely delivery of mass care services is provided.
 - ESF #7
 - ♦ Develop plans with ESF #6 partners to provide life-sustaining and human services to the affected population, to include hydration, feeding, sheltering, temporary housing, evacuee support, reunification, and distribution of emergency supplies.
 - ♦ Develop contracts and acquire inventory to support the mass care mission.

- ♦ Engage states and ESF #6 partners in the completion of the Logistics Capability Assessment Tool to enhance national readiness.
- ♦ Work with ESF #6 to identify items and quantities of resources for potential deployment to ISBs in support of mass care services activities.
- ESF #8
 - ♦ Work with ESF #6 to develop, revise, and maintain plans for the provision of mass care, reunification, and human services to patients transported to host jurisdictions; provision of medical services in shelters and other congregate facilities; provide veterinary medical support to sheltered animals; provision of prophylaxes, guidelines, and information during public health emergencies; and reunification of pediatric patients with their parent(s)/legal guardian after a medical evacuation.
 - ♦ Identify potential staff requirements and/or shortfalls for: the potential deployment of shelter assessment teams; the provision of medical services in shelters and other mass care delivery sites; provide veterinary medical support to sheltered animals; and the provision of technical assistance and information required to provide mass care services safely during public health emergencies.
- ESF #9
 - ♦ Develop, revise, and maintain plans to coordinate the transfer of rescued survivors and their household pets from SAR operations to mass care services.
- ESF #11
 - ♦ Work with ESF #6 to develop and revise plans for the rescue, transportation, shelter, reunification, care, and essential needs of household pets and service and assistance animals.
 - ♦ Assist with data collection and information analysis to inform decisions on the placement of temporary housing sites and staging areas and to mitigate possible damage to natural and cultural resources.
 - ♦ Conduct surveys of wetlands and archeological sites; make biological assessments; make condition assessments of historic structures and museum and archival collections to assist with evaluating sites to inform planning and operational decisions.
- ESF #13
 - ♦ Work with ESF #6 to develop, revise, and maintain plans to coordinate security and safety of survivors at congregate mass care sites and for the safeguarding of emergency supplies.
- ESF #15
 - ♦ Develop, revise, and maintain public messaging for mass care services and activities.

Phase 1b—Elevated Threat

End State: Mass care plans, trainings, and exercises have been reviewed and updated to build, sustain, and improve existing operational capabilities. (Supports MC-MO-1)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment

and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 1c—Credible Threat

End State: Identify anticipated mass care and housing support needs and resource requirements, in coordination with public, private, and nongovernmental partners. (Support MC-MO-3)

The Response FIOF is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 2a—Immediate Response

End State: Based on preliminary situational reports, Federal personnel and resources have been alerted to support evacuation and mass care requirements, in close coordination with whole community partners. (Supports MC-MO-3)

- Tasks by Phase, by ESF
 - ESF #1
 - ♦ Provide reports on the status of, and damage to, the transportation system and infrastructure (e.g., roads and National Airspace System), and other information related to transportation activities and accessibility.
 - ♦ Provide information on temporary alternative transportation solutions if primary systems or routes are unavailable or overwhelmed.
 - ♦ Provide information on regulatory waivers, exemptions, and permits to support mass care services activities.
 - ♦ Coordinate with state(s) Departments of Transportation to provide status of transportation infrastructure (e.g., road conditions).
 - ESF #3
 - ♦ When requested, inspect mass care facilities to ensure suitability for, and accessibility to, survivors.
 - ♦ Provide damage/status reports on water and wastewater treatment plants.
 - ♦ Work with ESF #6 to identify shelters and prioritize other mass care facilities that require emergency power.
 - ♦ Provide information on the status of waterways.
 - ESF #6
 - ♦ Coordinate with local, state, tribal, territorial, and insular area governments and NGOs to identify local capabilities and shortfalls and provide resource support for mass care services as requested by the state.
 - ♦ Provide a mass care/emergency assistance evacuee support liaison for Federal evacuation support planning in coordination with state, tribal, territorial and insular area governments.

- ♦ Provide evacuee support (e.g., support for registration and tracking of evacuees and mass care for evacuation operations).
- ♦ Participate in Stafford Act disaster declaration calls with the affected regions and states.
- ♦ Initiate discussions with mass care service providers to determine potential needs for support based on shared situational awareness (e.g., support for individuals with disabilities, individuals with LEP, and others with access and functional needs, children, human needs assessments, household pets and service animal support).
- ♦ Activate contracts to meet mass care/emergency assistance resource requirements.
- ♦ Support state EMAC requests for out-of-state mass care resources.
- ♦ Collect, analyze, monitor, and report on the status of mass care services activities, including:
 - Sheltering
 - Feeding
 - Support services to individuals with disabilities, individuals with LEP, and others with access and functional needs
 - Distribution of emergency supplies
 - Household pet and service animal support missions (e.g., rescue, transportation, shelter, reunification, care, essential needs)
 - Requirements related to children in mass care facilities
 - Evacuee support
 - Reunification services
- ♦ Provide voluntary agency coordination.
- ♦ Coordinate with VOAD members and other mass care service providers to identify available inventory of mass care resources and fill any shortfalls.
- ♦ Issue mission assignments to ESF #6 support departments and agencies, as needed.
- ♦ Activate and deploy pre-identified personnel/teams and other resources to identify immediate mass care/emergency assistance requirements for the affected area, and coordinate with logistics to support requirements.
- ♦ Establish and monitor communication links with FEMA's Logistics Management Directorate regarding mass care support items.
- ♦ Identify immediate feeding, hydration, and emergency supply (including durable medical equipment) requirements for the affected area, and coordinate with logistics to support requirements.
- ♦ Engage the private sector to determine resource availability within area of impact.
- ♦ Place food vendor, personal assistance services, and other contractors on alert.
- ♦ Identify and coordinate sheltering requirements to determine the Federal resources required to meet state/regional shortfalls.

- ♦ Coordinate with ESF #11 on requests for USDA Foods and infant formula and baby food to supplement FEMA's infant/toddler kits and ESF #7 on the delivery of shelter and emergency supplies to staging areas, support shelters, PODs, and the shelter-in-place populations. Use the Commonly Used Shelter Items/Services List catalog as a reference for making supply determinations.
- ♦ Coordinate, alert, and deploy Federal mass care resources to support mass care services activities, including: sheltering; feeding; distribution of emergency supplies; support to individuals with disabilities, individuals with LEP, and others with access and functional needs, children, household pets, and service and assistance animals; reunification services; and mass evacuee support. Also, support voluntary agency coordination and unsolicited donations and unaffiliated volunteer management.
- ♦ Coordinate with ESF #7 to deliver commodities and other emergency supplies (e.g., tents, tarps) to staging areas.
- ♦ Deploy preliminary damage assessment teams. Review/analyze reports on the status of, or restoration of, critical infrastructure and damage to survivors' homes.
- ♦ Coordinate procurement specifications with local, state, tribal, territorial, and insular area departments and agencies through Individual Assistance Technical Assistance Contract (IA-TAC) and activate/issue requests for assistance, as needed.
- ♦ Request inventory and identify available transportation resources, shelter facilities, medical facilities, personnel (including shelter staffing), equipment, and supplies.
- ♦ Activate Contracting Officer's Technical Representatives for mass care contracts and process for resources.
- ♦ Activate and mobilize surge staffing for the National Processing Service Center to meet anticipated increase in registration and call center volume.
- ♦ Coordinate reunification services, including the National Emergency Family Registry and Locator System (NEFRLS), and mobilize the NEFRLS Web site and call center at the request of the RRCC or the affected state. Activate and fund the NCMEC National Emergency Child Locator Center, and activate National Center for Missing & Exploited Children Team Adam to support child reunification at the local, state, tribal, territorial, and insular area levels.
- ♦ Provide support for RRCC/JFO housing strategy planning.
- ♦ Implement the National Disaster Housing Strategy.
- ♦ Activate resources to fulfill mass care/emergency assistance requirements identified in support of Red Cross activities and other MC/EA partners.
- ♦ Determine the placement of functional needs sheltering caches from regional storage sites.
- ♦ Coordinate assessment by Administration for Children and Families of human services/social services critical needs in the impacted area.
- ESF #7
 - ♦ Ensure coordination with impacted states, ESF #6, and voluntary organizations to minimize duplication of commodities delivered to the field.

- ESF #8
 - ♦ Work with ESF #6 to identify the need to implement the Emergency Prescription Assistance Program in impacted states.
 - ♦ Provide information to ESF #6 on the location of patients evacuated to host jurisdictions to facilitate family reunification.
- ESF #9
 - ♦ Provide information to ESF #6 on SAR activities, including the location of rescued survivors to facilitate family reunification.
 - ♦ Coordinate with ESF #6 to transfer rescued survivors and their household pets from SAR operations to mass care services.
- ESF #11
 - ♦ Provide technical assistance and coordinate with ESF #6 and state agencies on potential needs for USDA Foods, infant formula, and baby food, and possible D-SNAP requests.
 - ♦ Participate in Multiagency Coordination functions as necessary to provide support to animal issues, as mission-assigned and provide technical assistance and subject matter expertise to local, state, tribal, territorial, insular area, and Federal governments, and NGOs, regarding animal response issues.
- ESF #13
 - ♦ Coordinate with ESF #6 to provide access to voluntary organization staff to impacted areas.
 - ♦ Provide information on safety and security issues in impacted areas.
- ESF #15
 - ♦ Work with ESF #6 to develop public messaging for survivors, including locations of shelters and other mass care services, as well as information on available Federal assistance programs. Ensure that messaging is accessible and culturally and linguistically appropriate.

Phase 2b—Deployment

End State: In coordination with the affected jurisdictions, Federal mass care support resources and personnel requirements are analyzed, prioritized, and deployed to the affected area. (MC-MO-2, MC-MO-4)

- Tasks by Phase, by ESF
 - ESF #3
 - ♦ Conduct pre-incident and post-incident assessments of public works and infrastructure.
 - ♦ Execute emergency contract support for life-sustaining services.
 - ♦ Provide technical assistance to include engineering expertise, construction management, contracting, and real estate services.
 - ♦ Provide assessment and emergency response support for water and wastewater treatment facilities, levees, dams, buildings, bridges, and other infrastructure.

- ♦ Provide temporary emergency power to critical facilities (e.g., hospitals, water treatment plants, shelters, fire/police stations).
- ♦ Provide assistance in the monitoring and stabilization of damaged structures and the demolition of structures designated as immediate hazards to public health and safety.
- ♦ Provide structural specialist expertise to support inspection of mass care facilities and US&R operations in coordination with ESF #9.
- ♦ Provide technical assistance to include engineering expertise, construction management, contracting, and inspection of private/commercial structures.
- ESF #4
 - ♦ Deploy resources, including cots, blankets, sleeping bags, and personnel to support the mass care mission, if requested and available.
- ESF #5
 - ♦ Activate ESF #6 at the national and regional level to provide coordination and technical assistance.
- ESF #6
 - ♦ Mobilize mass evacuee support staff, including food, hydration, information, and reunification, as well as assist with tracking the movement of evacuees, household pets, luggage, and durable medical equipment through deployment of the National Mass Evacuation Tracking Systems, if requested.
 - ♦ Coordinate among all ESF #6 components, Mass Care, Emergency Assistance, Temporary Housing and Human Services to ensure that full, efficient, and timely delivery of mass care services is provided.
 - ♦ Provide support for unsolicited donations and unaffiliated volunteers.
 - ♦ Determine if mass care task forces and/or multiagency coordination systems are required to support state operations (e.g., Feeding Support Task Force, Animal Multiagency Coordination System).
 - ♦ Request and deploy health services, physical and behavioral health personnel to support general population sheltering operations in response to validated unmet needs. Identify shortfalls and anticipate potential areas for possible support services needed in shelters and other congregate sites.
 - ♦ Deploy mass care/emergency assistance resource support teams.
 - ♦ Implement PSMA's in support of mass care services, including the Corporation for National and Community Service, USDA, HHS, USACE.
 - ♦ Ensure that individuals with access and functional needs, such as individuals with disabilities in mass care facilities receive needed commodities, hygiene items, and durable medical equipment (e.g., wheelchairs, hospital beds, and canes), consumable medical supplies, and/or personal assistance services.
 - ♦ Deploy FEMA registration teams to shelters and other mass care sites.
 - ♦ Collaborate with ESF #11 to provide USDA Foods and infant formula and baby food to supplement FEMA's infant/toddler kits.

- ♦ Coordinate with other local, state, tribal, territorial, insular area, and Federal agency, voluntary organization, and private sector partners to provide mass care support to states as well as to identify and deliver additional service and resource requirements with host jurisdictions.
- ♦ Conduct meetings with partner departments and agencies to identify ways to support the whole community, including people from diverse racial and ethnic groups, LEP persons, and people with disabilities, develop a common operating picture, and resolve outstanding activation and operational issues.
- ♦ Adjust operational objectives and assumptions based on developing shared situational awareness and understanding.
- ♦ Identify secondary shelter locations (including those outside of impact area) and determine resource needs to support them.
- ♦ Evaluate the feasibility of non-traditional sheltering methods (e.g., private sector solutions, soft-sided shelters, small-sized portable/collapsible shelters).
- ♦ Mission assign DoD, DOI, U.S. Postal Service, DOJ, DOL, DOT, Department of the Treasury, VA, GSA, and Social Security Administration in support of the mass care mission.
- ♦ Deploy National Center for Missing & Exploited Children Team Adam to the affected area to assist in the location and reunification of missing children and their parent(s)/legal guardian.
- ♦ Obtain status of THU's nationwide from FEMA Logistics (e.g., availability and accessibility). Identify the availability of other types of interim and permanent housing alternatives.
- ♦ Initiate the FEMA Transitional Sheltering Assistance Program and provide other mass care services if needed.
- ♦ Obtain fatality information for the purpose of reunifying family members and legal guardians with missing persons/remains.
- ♦ Determine the need for mobile and fixed Disaster Recovery Center sites and Mobile Registry Intake Centers through the RRCC/JFO.
- ♦ Identify and deploy health services, and physical and behavioral health personnel, to support congregate sheltering operations.
- ♦ Coordinate the deployment of NGOs in collaboration with the responding departments and agencies (e.g., the American Red Cross, Southern Baptists, The Salvation Army) mobile feeding units and kitchens to staging areas.
- ♦ Deploy shelter assessment teams at the request of the state.
- ♦ Activate and deploy mass care mission planning teams to the affected areas.
- ♦ Coordinate emergency medical care with local, state, tribal, territorial, and insular area departments and agencies from the NRCC or RRCC to the JFO.
- ♦ Initiate deployment actions for THUs in the affected area.

- ♦ Coordinate deployment of National Veterinary Response Team (NVRT) resources to emergency household pets sheltering sites and to support service animals in general population shelters, if required.
- ESF #7
 - ♦ Deliver mass care supplies to ISBs, staging areas, shelters, POD(s), and other mass care sites.
 - ♦ Work with ESF #6 to identify additional mass care resource requirements.
 - ♦ Coordinate and immediately deploy pre-staged packages containing medical equipment and supplies.
- ESF #8
 - ♦ Provide reports and information on critical shelter assessment requirements to ESF #6 for resourcing.
 - ♦ Coordinate with ESF #6 to identify patients who have been evacuated to hospitals in host jurisdictions to determine the types of mass care support services required.
 - ♦ Deploy medical teams to mass care sites, if required.
 - ♦ Coordinate with ESF #6 for the purpose of reunifying family members with missing persons/human remains.
- ESF #11
 - ♦ Identify resources available to disaster survivors in the impacted area.
 - ♦ Provide technical assistance and coordinate with ESF #6 and state agencies on potential needs for USDA Foods, infant formula and baby foods, and possible D-SNAP requests.
 - ♦ Provide technical assistance to impacted jurisdictions to assist with animal issues.
- ESF #13
 - ♦ Address the needs of institutionalized/incarcerated survivors who cannot access mass care services, while ensuring public security.

Phase 2c—Sustained Response

End State: Additional Federal resources have been delivered to the affected area. Life-sustaining services have been provided in close coordination with whole community partners. Eligible survivors have received relocation assistance or interim housing. Reunification services have been provided to reunite the missing with family members and caregivers. (Supports MC-MO-2, MC-MO-5)

Tasks by Phase, by ESF

- ESF #1
 - ♦ Provide information on new regulatory waivers and exemptions to support mass care services activities, if any have been requested and approved.
 - ♦ Provide technical support to impacted and host states and FEMA for the coordinated return of survivors to pre-disaster dwellings or to new post-disaster locations.

- ESF #3
 - ♦ Provide assistance for the construction of temporary shelter facilities, including accessible shelters in the affected area, as required.
 - ♦ Support restoration of critical navigation, flood control, and other water infrastructure systems, including drinking water distribution and wastewater collection systems.
 - ♦ Manage, monitor, and/or provide technical advice in the clearance, removal, and disposal of debris from public property and the reestablishment of ground and water routes into impacted areas.
 - ♦ Deploy teams to the Area Field Office/JFO to assess the need for an Emergency Residential Roof Covering mission and emergency repair of primary residences damaged as the result of a disaster.
- ESF #6
 - ♦ Communicate and coordinate with appropriate RSF points of contact, such as HHS for the Health and Social Services RSF and HUD for the Housing RSF.
 - ♦ Coordinate logistics requirements for mobile Disaster Recovery Center and mass care service sites.
 - ♦ Deploy Individual Assistance staff to support Disaster Recovery Center operations.
 - ♦ Coordinate resources requirements with ESF #7.
 - ♦ Coordinate with the RRCC and JFO to open mobile Disaster Recovery Centers.
 - ♦ Evaluate effectiveness in meeting objectives for sheltering, feeding, distribution of emergency supplies, support to individuals with disabilities, individuals with LEP, and others with access and functional needs, children, household pets and service and assistance animals, and reunification. Reprioritize and/or adjudicate resources accordingly.
 - ♦ Deploy additional resources to the field or reposition current resources based on a shared situational awareness and the status of completed objectives.
 - ♦ Integrate (or further integrate if already engaged) local, state, tribal, territorial, and insular area governments, NGOs, and private sector partners into mass care operations as well as into Housing and Human Services programs.
 - ♦ Coordinate with local, state, tribal, territorial, and insular area jurisdictions to identify requirements for direct housing missions, identify alternative housing options and synchronize local, state, tribal, territorial, insular area, and Federal Government assistance programs.
 - ♦ Identify and train additional mass care personnel, as needed.
 - ♦ Coordinate with local, state, tribal, territorial, and insular area VOAD to identify community needs. Support the transition of survivors from congregate to non-congregate sheltering. Help manage unsolicited donations, coordinate the relief efforts of national voluntary organizations deployed to the affected area, and share information with voluntary organizations to avoid duplication of services.

- ♦ Support local, state, tribal, territorial, and insular area governments in the development and employment of the mass care personnel rotation plan to minimize fatigue, ensure worker health, and maintain capabilities.
- ♦ Develop a strategy for the transition from general population sheltering to transitional sheltering and temporary and permanent housing.
- ♦ Support reunification services and survivor relocation mechanisms.
- ♦ Coordinate with ESFs #1, #7, and #8 for the relocation of individuals with acute medical conditions, whose medical care cannot be sustained in the impacted area, to communities that can provide required services in the most integrated setting appropriate.
- ♦ Provide Federal financial assistance to eligible survivors through the Individuals and Households Program, SBA, Internal Revenue Service, DOL, and other programs and departments and agencies to facilitate the transition of survivors from sheltering to permanent housing and begin the recovery process.
- ♦ Provide Stafford Act grant programs such as the Crisis Counseling Program, Disaster Unemployment Assistance, Disaster Legal Assistance, Disaster Case Management, and other human services programs.
- ♦ Coordinate with voluntary and community organizations, including organizations serving diverse racial and ethnic populations, that provide essential community relief services, including debris removal from disaster survivor residences; mud-out; tear-out; chainsaw work; warehouse management; transportation and distribution coordination; child care services; behavioral health, emotional, mental, and spiritual care and counseling; financial assistance; financial counseling; related disaster-related case work and case management; and other essential services.
- ♦ Provide eligible survivors with relocation assistance or temporary housing solutions.
- ♦ Initiate and implement a long-term host jurisdiction mass care services plan to facilitate the integration of survivors into the community.
- ♦ Coordinate with the Housing RSF to transition survivors from sheltering and temporary housing to long-term and permanent housing.
- ♦ Coordinate with the Health and Social Services RSF to ensure continuous support for social services needs in impacted communities.
- ♦ Identify temporary and permanent housing alternatives (including accessible housing alternative) and facilitate the movement of survivors from emergency and transitional sheltering to those options. Support may include the provision of relocation assistance, temporary housing solutions, and other support for households unable to return to their pre-disaster dwellings.
- ESF #7
 - ♦ Coordinate with ESF #1, ESF #6, ESF #8, ESF #11, and ESF #12 to ensure the continued delivery of equipment and supplies to shelters, PODs, and other mass care services sites.
- ESF #8
 - ♦ Coordinate with ESF #1 and ESF #5 for the relocation of individuals with acute medical needs whose medical care cannot be sustained from the impacted area to communities that can provide required services in the most integrated setting appropriate.

- ♦ Coordinate with local, state, tribal, territorial, insular area, and Federal entities, NGOs, and the private sector to attain Public Health, Healthcare, and Emergency Medical Services resources, as needed.
- ESF #11
 - ♦ Provide USDA Foods to state agencies for distribution to shelters and other mass feeding sites, and in certain limited situations, household distribution.
 - ♦ Provide infant formula and baby food to supplement FEMA's infant/toddler kits.
 - ♦ Authorize state agencies to issue D-SNAP benefits.
 - ♦ Identify resources available to disaster survivors in the impacted area.
 - ♦ Provide technical assistance to impacted jurisdictions to assist with animal issues.
 - ♦ Collaborate with ESF #6 to provide nutritional assistance to disaster survivors.
- ESF #15
 - ♦ Refine, expand, and broadcast public messaging on ESF #6 programs and services available to disaster survivors.

Phase 3a—Short-term Recovery

End State: Non-congregate housing alternatives have been identified to facilitate the transition of survivors from congregate shelter. Relocation assistance and/or interim housing solutions have been provided to applicable recipients. Mass care activities have transitioned to support the longer-term needs of survivors, and demobilization of Federal resources has begun. (Supports MC-MO-1, MC-MO-3, MC-MO-6)

- Tasks by Phase, by ESF
 - ESF #3
 - ♦ Implement the Emergency Residential Roof Covering program and/or the emergency repair of survivors' primary residence, if requested.
 - ♦ Provide construction, engineering, and project management expertise and support for temporary housing and direct housing missions.
 - ♦ Construct critical public facilities to temporarily replace destroyed or damaged buildings following a disaster (e.g., schools, local government offices, fire stations, police stations, medical facilities), in coordination with ESF #6.
 - ESF #6
 - ♦ Coordinate with local, state, tribal, territorial, and insular area governments and voluntary organizations to ensure that human services are available (e.g., registration for disaster assistance, disaster case management program, housing programs).
 - ♦ Provide reimbursement or tax relief to survivors with substantial verified disaster-caused losses.
 - ♦ Provide survivors who have lost their jobs due to a disaster with unemployment benefits.
 - ♦ Coordinate with IA-TAC, logistics management, and others to transport THUs outside of the affected area.

- Coordinate with faith-based organizations, community-based organizations, and NGOs to provide additional emergency assistance, as needed.
- Begin to transition from mass care, emergency assistance, and temporary housing activities to permanent housing and human services programs.
- Coordinate with the FEMA Voluntary Agency Liaison team to ensure that long-term recovery groups are in development or already established to provide assistance to affected individuals and minimize duplication of benefits and services.
- Coordinate with the Housing RSF to identify the need to provide relocation assistance to survivors unable to return to their pre-disaster residences.
- Work with the SBA to facilitate loan information and application/approval processes for disaster survivors.
- Determine the transitional set-up staging area for THUs and begin construction of group sites, in coordination with impacted regions and states.
- Determine if the second phase of Individual Assistance programs, including crisis counseling and disaster case management, should be extended, in coordination with impacted regions and states.
- Determine if the FEMA registration period needs to be extended, in coordination with impacted regions and states.
- Adjust call center staffing requirements as needed.
- Provide support for the provision of case management, crisis counseling, and advocacy services.
- Assist with applications for Federal benefits sponsored by HHS and ensure continuity of assistance services in affected states and in states hosting relocated populations.

Administration and Support

Activation, notification, deployment, and deactivation will be as normally implemented by the pertinent department or agency.

The following agreements/arrangements are specific to this core capability:

- Memoranda of Agreement/Memoranda of Understanding:
 - American Red Cross
 - Corporation for National and Community Service
 - North American Mission Board—Southern Baptists
 - The Salvation Army
 - Adventist Community Services
 - Church World Service
 - Mennonite Disaster Service
 - United Methodist Committee on Relief
 - Feeding America

- National Voluntary Organizations Active in Disaster
- Operation Hope
- National Council on Independent Living.
- PSMA/Mission Assignments:
 - HHS:
 - ♦ Activation of Human Services Assessment and Technical Assistance assets
 - ♦ Pre-declaration activation of staff to support the NRCC
 - ♦ Pre-declaration activation of staff to support the RRCC
 - ♦ Emergency Prescription Assistance and Medical Equipment Replacement Program.
 - USDA/APHIS—Activation of staff to support NRCC, RRCC, JFO and/or other locations.
 - Corporation for National and Community Service—Activation of staff to support NRCC, RRCC, JFO and/or other locations.
 - USDA Rural Development—Activation of staff to support NRCC, RRCC, JFO and/or other locations.

Table C.6-1: Mass Care Core Capability Waivers, Exceptions, and Exemptions

Type	Description
Waiver	<p>Defense Production Act—Allows for Federal priority to secure certain supplies and prohibits the public from hoarding scarce materials.</p> <p>Department of the Treasury/Bureau of the Public Debt—May waive the minimum holding period for Series EE and I Savings Bonds presented to authorized paying agents for redemption.</p>
Exemption	Buy America Act—Establishes requirements intended to give preference to the use of domestically produced materials and any procurements funded at least partially by Federal funds.
Extension	<p>The Internal Revenue Service provides an extension of the taxpayers in Presidentially declared disaster areas of the deadline to file tax returns and provide payment without penalties or interest.</p> <p>The VA works with lenders concerning foreclosure/waiver/underwriting/credit protection flexibilities related to VA-issued home loans.</p>
Exception	<p>USDA provides Letters of Priority Entitlement allowing the holder of the letter (identified survivor) to go to the top of any USDA MF 515 or 514 waiting lists for placement in USDA-financed housing.</p> <p>The Social Security Administration provides expedited processing of new Federal benefit claims during emergency operations.</p>

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Appendix 7 to Annex C: Mass Search and Rescue Operations

Purpose

The purpose of this appendix is to describe the delivery of the Mass Search and Rescue (SAR) Operations core capability.

The Mass SAR Operations core capability delivers SAR capabilities, including personnel, services, animals, and assets to survivors in need, with the goal of saving the greatest number of endangered lives in the shortest time possible.

The Mass SAR Operations (MS) critical tasks are as follows:

- **MS-Critical Task-1.** Conduct SAR operations to locate and rescue persons in distress, based on the requirements of local, state, tribal, territorial, and insular area authorities.
- **MS-Critical Task-2.** Initiate community-based SAR support operations across a wide geographically dispersed area.
- **MS-Critical Task-3.** Ensure the synchronized deployment of local, regional, national, and international teams to reinforce ongoing SAR efforts and transition to recovery.

Situation

Responders will coordinate and conduct SAR response efforts for all hazards, including searching affected areas for survivors and locating, accessing, medically stabilizing, and extricating survivors from the damaged area.

In the likely event that SAR teams and resources within the incident area are unavailable, Federal coordination with local, state, tribal, territorial, and insular area authorities will be required for the provision of limited SAR capabilities for timely rescue. Federal SAR resources may operate under the Economy Act when there is no Stafford Act declaration. SAR teams will conduct SAR operations to locate and rescue persons in distress, based on the requirements of local, state, tribal, territorial, and insular area authorities. This will allow for community-based SAR support operations across a wide geographically dispersed area. This coordinated effort will ensure the synchronized deployment of local, regional, Federal, and international teams to reinforce ongoing SAR efforts and transition to recovery.

The success of rescue operation coordination depends heavily on the interoperability between individual communication systems across all SAR entities. For SAR operations, internal coordination and interoperability between communication systems may be limited due to downed communication systems. The FEMA Mobile Emergency Response Support (MERS) detachments normally deploy with SAR units to provide a higher level of interoperability.

The success of SAR operations in the affected area also depends heavily on the ability to overcome distance or mobility limitations. SAR operations are dependent on the accessibility of the incident area (e.g., roads) and the availability of alternative modes of transportation (e.g., airlift support). In a notice incident, some assets can be activated and pre-deployed. Severely degraded or destroyed infrastructure will also impact the ability of SAR assets to deliver services in a timely and efficient manner.

CBRNE environments can impair SAR capabilities and will require additional resources to support long-term operations. The ability to sustain and equip SAR capabilities in a CBRNE environment

will be challenging and the attempt may pose a safety hazard to the SAR personnel. For sustained operations, constant air monitoring and long-term SAR personnel health monitoring are required.

Assumptions

General assumptions for the Response FIOP have been identified in the base plan.

Mission

Federal interagency partners will initiate and conduct SAR operations to rescue people in distress based on the requirements of local, state, tribal, territorial, and insular area authorities. These Federal interagency partners will also ensure synchronization of deployed Federal, regional, local, and international teams to reinforce ongoing SAR efforts and transition to recovery.

Execution

Concept of Operations

Phase 1

The National SAR Plan of the United States serves as the Nation's plan for coordinating SAR services to meet domestic needs and international commitments. The NRF, U.S. National SAR Supplement, Catastrophic Incident SAR Addendum to the U.S. National SAR Supplement, and other addenda also define SAR responsibilities and provide guidance to the Federal departments and agencies with civil SAR mandates. The U.S. National SAR Supplement provides implementation guidance on the International Aeronautical and Maritime SAR Manual and the National SAR Plan. The Catastrophic Incident SAR Addendum provides a description of the unified SAR response to catastrophic incidents, guides Federal authorities involved in the response, and informs local, state, tribal, territorial, and insular area authorities on what to expect of/from Federal SAR responders.

Federal SAR Coordinators support local, state, tribal, territorial, and insular area SAR Coordinators' efforts to develop catastrophic incident plans through planning, training, and exercises. Local, state, tribal, territorial, insular area, and Federal policies and procedures are continuously updated to reflect lessons learned from exercises and incidents.

Federal departments and agencies continue to provide training guidance to local, state, tribal, territorial, and insular area officials to strengthen their SAR capabilities and to help pre-identify Federal installations and available personnel with SAR skills and expertise that can serve as force multipliers during an incident.

Local, state, tribal, territorial, and insular area authorities are responsible for SAR within their respective jurisdictions and typically designate a SAR Mission Coordinator to provide integration and coordination of all SAR services. If an affected local, state, tribal, territorial, or insular area government publishes guidance or a plan for conducting unified SAR operations, that guidance or plan takes precedence.

Phase 2

Federal SAR resources are alerted, activated, and deployed, as required. Incident-specific factors such as incident type, size, and location will define the MOs and available resources. SAR Regions and their associated rescue coordination centers ensure operational coordination to effectively support civil SAR services. The Federal SAR Coordination Group may also be activated in support of the ESF #9 Overall Primary Agency designated for each event. When requested by a lead Federal

agency and approved by the Secretary of Defense, DoD can provide SAR resources, including ground and air assets

State-to-state SAR assistance is requested by the affected state through the EMAC. Other local SAR resources are requested by the affected locality through other mutual aid and assistance agreements. Non-Federal SAR resources are, as appropriate, incorporated into any coordinated SAR operations.

The Federal ESF #9 Primary and Support Agencies provides US&R, maritime/coastal/waterborne SAR, and land SAR resources. SAR activities include monitoring distress alerts, locating distressed personnel, coordinating rescue efforts, extricating or evacuating survivors, and providing initial medical assistance. Rescued individuals are transported to temporary holding areas or points of safety for triage, emergency life sustaining treatment prior, to transport a more permanent care location.

SAR personnel also provide support with documenting the location of the deceased. If human remains are located during SAR operations, SAR personnel will notify the Incident Commander to ensure proper relocation.

During sustained response operations, additional SAR resources may be activated and rotated in to provide continuous operations. DOS and the USAID/Office of Foreign Disaster Assistance coordinate the use and employment of international SAR assets/resources if the level of response will overwhelm the national capability as stated in the International Assistance System.

Phase 3a

The transition to recovery, in most instances, eliminates the need for Mass SAR Operations core capability services. Federal SAR operations continue until all “reasonable hope of rescuing survivors has passed”²⁷ and the determination to cease SAR operations has been made by the agency having jurisdiction. By the start of recovery, operations have transitioned to search and recovery of fatalities. Remains Recovery Reconnaissance teams may be assembled from local, state, tribal, territorial, insular area, and Federal entities.

Coordinating Structure

Many ESFs support the Mass SAR Operations core capability. The ESFs that perform tasks under this core capability are summarized in Figure C.7-1. Specific tasks conducted by these ESFs are identified in the Tasks by Phase, by ESF section below.

²⁷ National Search and Rescue Plan of the United States.

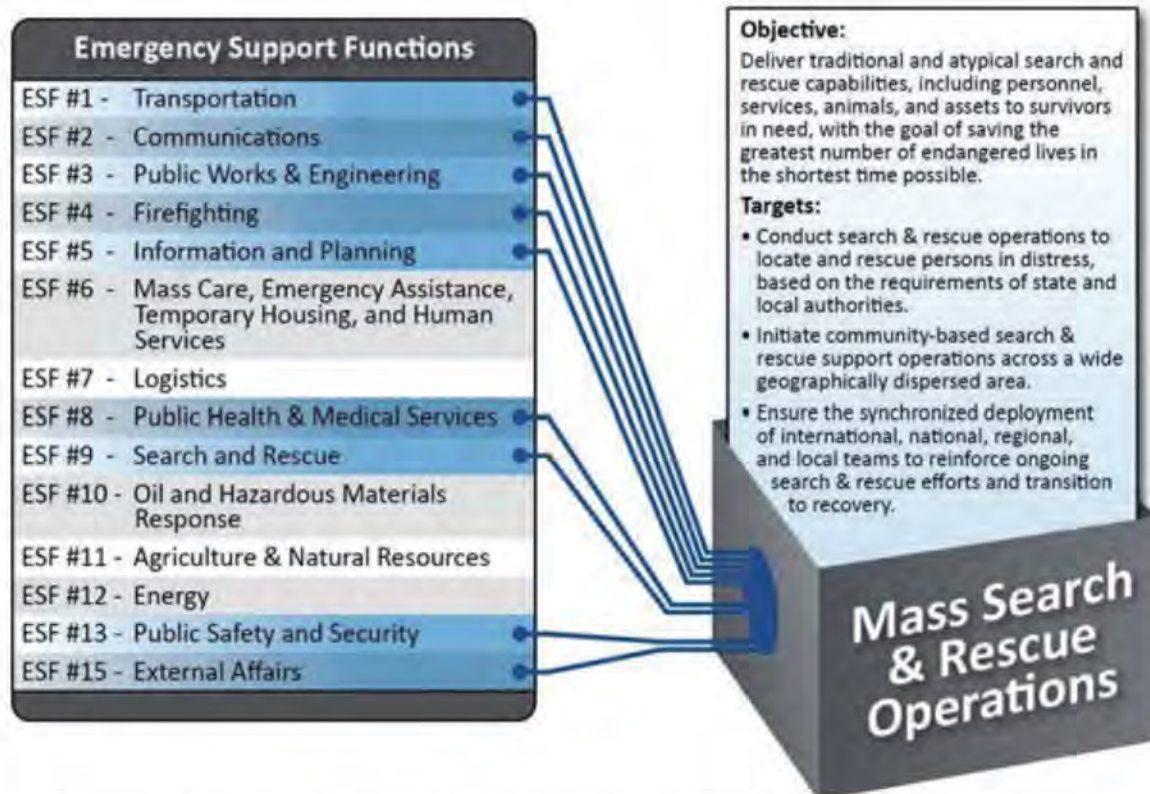


Figure C.7-1: Coordination of ESF Support to Mass Search and Rescue Operations

ESF #9 provides the delivery of this core capability. The Primary Agencies overseeing Federal SAR operations are FEMA, USCG, DOI/National Park Service (NPS), and DoD. SAR consists of different operational environments requiring different coordination.

Accordingly, for every incident, the ESF #9 coordinator assesses the specific SAR requirements and designates one of the four Primary Agencies as the Overall Primary Agency for SAR for that particular incident. When assigned as the Overall Primary Agency for a particular incident, that organization:

- Coordinates planning and operations between Primary and Support Agencies
- Coordinates resolution of conflicting operational demands for SAR response resources
- Provides representation to appropriate incident facilities (e.g., NRCC, RRCC, JFO, EOCs).

All ESF #9 Primary Agencies provide support to the designated Overall Primary Agency as required.

Structural Collapse Urban Search and Rescue

Structural Collapse US&R includes operations for natural and other disasters and catastrophic incidents, as well as other structural collapse operations that primarily require FEMA US&R task force operations. The National US&R Response System integrates FEMA US&R task forces, Incident Support Teams (IST), and technical specialists. The Federal US&R response integrates FEMA task forces in support of unified SAR operations conducted following the U.S. National SAR Plan, which is the policy guidance of the signatory Federal departments and agencies for coordinating SAR services to meet domestic needs and international commitments. ISTs provide coordination and logistical support to US&R task forces during emergency operations. They also

conduct needs assessments and provide technical advice and assistance to local, state, tribal, territorial, and insular area government emergency managers.

Maritime/Coastal/Waterborne Search and Rescue

Maritime SAR includes operations for natural and other disasters that primarily require USCG air, ship, boat, and response team operations. USCG develops, maintains, and operates rescue facilities for SAR in waters subject to U.S. jurisdiction and is designated the Primary Agency for maritime SAR. USCG staffing at area, district, and local Sector Command Centers promotes interagency coordination with local, state, tribal, territorial, and insular area emergency managers during incidents requiring a unified SAR response in which maritime SAR resource allocation is required.

Land Search and Rescue

Land SAR includes operations that require DoD and DOI/NPS aviation and ground forces to meet MOs, excluding maritime/coastal/waterborne and structural collapse SAR operations. Examples include a wide-area land SAR, wilderness SAR, volcanic eruption, or CBRNE incident. DOI/NPS maintains preconfigured teams that include personnel and equipment from DOI/NPS, U.S. Fish and Wildlife Service, USGS, Bureau of Indian Affairs, and other DOI components.

ESFs that provide support to the delivery of the Mass SAR Operations core capability are included in the following section.

Mass Search and Rescue Operations Tasks

Mission Objectives

- MS-MO-1: Coordinate operational efforts with local, regional, national, and international SAR teams. (Supports MS-Critical Task-3)
- MS-MO-2: Inventory existing personnel and conduct just-in-time training to provide a surge capacity for SAR operations. (Supports MS-Critical Task-1)
- MS-MO-3: Identify, activate, and deploy Federal personnel and resources needed to support SAR operations. (Supports MS-Critical Task-1, MS-Critical Task-2)
- MS-MO-4: Conduct community-based SAR operations, in close coordination with the affected jurisdictions, and in synchronization with personnel from local, regional, national, and international SAR teams. (Supports MS-Critical Task-1, MS-Critical Task-2, MS-Critical Task-3)

Phase 1a—Normal Operations

End State: Local, regional, and national SAR personnel have been inventoried and trained. (Supports MS-MO-2)

- Tasks by Phase, by ESF
 - ESF #9
 - ♦ Evaluate the state of operational readiness of Federal SAR resources by assessing personnel training and inventorying deployable assets.
 - ♦ Ensure Federal SAR resources are available for activation.
 - ♦ Ensure that an adequate amount of technical specialists required for support are rostered, trained, and available for deployment.

- ♦ Ensure that Federal ESF #9 resources are able to mobilize for rapid deployment and can be self-sufficient for 72 hours (with approved equipment and supplies list) for a response assignment of up to 14 days.
- ♦ Coordinate, exercise, and integrate the appropriate ESF #9 Primary Agencies (FEMA, USCG, NPS, and DoD), the National SAR Plan components (U.S. Northern Command/NORAD [Alaska], USCG Maritime [SAR Regions and Hawaii], NPS, Air Force [Continental United States other than Alaska]), the NRF, the U.S. National SAR Supplement, and Catastrophic Incident SAR Addendum to ensure seamless operations during a crisis.

Phase 1b—Elevated Threat

End State: Additional planning, training, and exercises have been conducted in coordination with local, regional, and national entities. (Supports MS-MO-1, MS-MO-2)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. These include any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 1c—Credible Threat

End State: Personnel and resources have been identified and pre-deployed to staging areas. (MS-MO-3)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. These include any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 2a—Immediate Response

End State: Personnel and resources have been identified, inventoried, activated, and deployed to the impacted area. Coordinated SAR operations have begun. (Supports MS-MO-2, MS-MO-3, MS-MO-4)

- Tasks by Phase, by ESF
 - ESF #1
 - ♦ Perform activities conducted under the direct authority of DOT elements as they relate to aviation, maritime, surface, railroad, and transportation to assist in the provision of the SAR assets.
 - ESF #2
 - ♦ Coordinate Federal actions to assist industry in stabilizing and reestablishing the public communications infrastructure thereby allowing alerts, which will facilitate the dissemination of instructions relative to the delivery of SAR information to the public.
 - ♦ Provide communications support to the JFO and any JFO field teams which assist in the coordination of the opening and staffing of emergency shelters.
 - ESF #3
 - ♦ Provide structural engineering expertise in support of SAR efforts to ensure the safety of responders and/or survivors.

- ♦ Assist with debris removal to allow US&R teams to gain access to survivors trapped within collapsed structures.
- ESF #4
 - ♦ Provide equipment and supplies from the National Interagency Cache System and use of National Interagency Fire Center contract aircraft during incidents, based on standby agreements and contingency plans.
- ESF #8
 - ♦ Coordinate with the Incident Commander and the assigned IMAT to move the rescued and/or injured.
 - ♦ Respond to medical needs associated with physical and mental health, behavioral health, and substance abuse of both incident survivors and response workers.
 - ♦ Provide veterinary medical support to SAR dogs when organic veterinary medical support requires augmentation.
- ESF #9
 - ♦ Activate headquarters and regional-level ESF #9 coordinators: for structural collapse SAR operations, designate FEMA as the ESF #9 Overall Primary Agency; for maritime/coastal/waterborne SAR operations, designate USCG as the ESF #9 Overall Primary Agency; and for land SAR operations, designate either DOI/NPS or DoD as the ESF #9 Overall Primary Agency.
 - ♦ Activate the ESF #9 Federal SAR Coordination Group to be assigned to the Operations Section of the IMAT/JFO to assist with strategic Federal SAR planning, operations, and coordination of SAR issues from the field.
 - ♦ Coordinate dialogue with the JFO on the identification and coordination of any EMAC SAR resources.
 - ♦ Assign ESF #9 Liaison Officers to all locations/entities requested (e.g., RRCCs, state EOCs, IMATs, JFOs).
 - ♦ Activate USACE structural specialist support for US&R task forces for deployment to, and employment in, the affected area.
 - ♦ Coordinate and execute PSMAAs (if required) for FEMA Logistics and other Federal resources required by SAR to support field operations.
 - ♦ In conjunction with LMD personnel and DoD and USCG liaisons, coordinate the following potentially available air transport in conjunction with the Transportation and Movement Coordination Group at the NRCC: DoD aircraft (when mission assigned); USCG aircraft; commercial air transport providers.
 - ♦ Coordinate with LMD to ensure that ground transport, sufficient to meet requirements for Federal SAR resources arriving by air, is in place at reception airport(s).
 - ♦ Determine if sufficient material handling equipment capability to meet requirements is in place at reception airport(s) before arrival of Federal SAR resources.
 - ♦ Deploy, employ, and maintain shared situational awareness of Federal SAR resources and other mission-assigned or mutual aid SAR resources.

- ♦ Activate appropriate Federal SAR resources for deployment to and employment in the affected area.
- ♦ Once activated, depart jurisdiction, arrive at impact area and begin conducting SAR operations within 12–16 hours.
- ♦ Coordinate the mission assignment of other Federal Government SAR resources.
- ♦ Coordinate through the FEMA Transportation Movement and Coordination Group for transportation of personnel and equipment.
- ♦ Obtain and execute strategic objectives for coordination of SAR resources.
- ♦ Issue a mission assignment to USCG for aviation and marine SAR support requirements.
- ♦ Issue a mission assignment requesting that DoD fulfill aviation SAR requirements and provide additional resources as force multipliers to support FEMA US&R resources.
- ESF #13
 - ♦ Provide force protection capabilities to deployed SAR resources.

Phase 2b—Deployment

End State: Additional Federal personnel and resources have been deployed to conduct community-based SAR operations, supplementing existing regional and national teams. (Supports MS-MO-1, MS-MO-2)

- Tasks by Phase, by ESF
 - ESF #1
 - ♦ Monitor and report status of and damage to the transportation system and infrastructure as a result of the incident.
 - ♦ Identify temporary alternative transportation solutions that can be implemented by others when systems or infrastructure are damaged, unavailable, or overwhelmed.
 - ESF #5
 - ♦ Activate ESF #9 at the national and regional level to provide coordination and technical assistance.
 - ESF #8
 - ♦ Coordinate the hand-off between SAR and medical triage/treatment system.
 - ESF #9
 - ♦ Identify reception airports for Federal SAR resources.
 - ♦ Coordinate to move the rescued and injured.
 - ♦ Coordinate with the local Incident Commander and the assigned IMAT team.
 - ♦ Continually evaluate incident objectives and strategic priorities, and determine what additional resources will be required.
 - ♦ Coordinate with LMD to ensure that material handling equipment capability is sufficient to meet requirements and is in place at reception airport(s) prior to the arrival of US&R resources.

- ♦ Provide and coordinate resources and personnel to perform operational and tactical SAR services.
- ESF #15
 - ♦ Provide incident-related information through the media and other sources in accessible formats and multiple languages to the impacted population, including individuals with access and functional needs, such as individuals with disabilities as well households, businesses, and industries directly or indirectly affected by the incident.

Phase 2c—Sustained Response

End State: Final SAR operations have been conducted, utilizing surge capacity, as needed. (Supports MS-MO-4)

- Tasks by Phase, by ESF
 - ESF #9
 - ♦ Determine the need to rotate Federal SAR resources and other SAR resources to allow personnel to rest and maintain capability.
 - ♦ Integrate additional out-of-state resources provided through EMAC and develop a strategy for augmenting or replacing the current Federal resources employed in the response.
 - ♦ Provide reports on the status SAR operations and objectives to maintain a shared situational awareness.
 - ♦ Identify areas where objectives have been achieved and reposition or demobilize personnel, when appropriate.

Phase 3a—Short-term Recovery

End State: SAR operations have concluded and remaining activities are transitioned to recovery operations. (Supports MS-MO-4)

- Tasks by Phase, by ESF
 - ESF #9
 - ♦ Assist with the transition from SAR operations to search and recovery issues.

Administration and Support

SAR resources will comply with existing procedures for activation, notification, deployment, and deactivation.

The following legal agreement pertains to the Mass SAR Operations core capability:

U.S. National Search and Rescue Committee Interagency Agreement provides for a Federal-level Committee to coordinate civil SAR matters of interagency partner interest within the United States. Member agencies include: DHS, DoD, DOT, Department of Commerce, DOI, National Aeronautics and Space Administration, and the FCC.²⁸

²⁸ United States National Search and Rescue Committee Interagency Agreement (2007).

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Appendix 8 to Annex C: On-scene Security, Protection, and Law Enforcement

Purpose

The purpose of this appendix is to describe the delivery of the On-scene Security, Protection, and Law Enforcement core capability.

The On-scene Security, Protection, and Law Enforcement core capability ensures a safe and secure environment through law enforcement and related security and protection operations for people and communities located within affected areas and also for all traditional and atypical response personnel engaged in lifesaving and life-sustaining operations.

The On-scene Security, Protection, and Law Enforcement (OP) critical tasks are as follows:

- **OP-Critical Task-1.** Establish a safe and secure environment in an affected area.
- **OP-Critical Task-2.** Provide and maintain on-scene security and meet the protection needs of the affected population over a geographically dispersed area while eliminating or mitigating the risk of further damage to persons, property, and the environment.

Situation

To ensure a safe and secure environment for all people and communities located within a designated disaster area, it is necessary to provide and maintain on-scene security to meet the protection needs of the affected population and eliminate or mitigate the risk of further damage to property. On-scene security also provides protection for all traditional and atypical response personnel engaged in lifesaving and life-sustaining operations.

In order to provide effective protection, local, state, tribal, territorial, and insular area law enforcement will require additional capabilities and resources including, but not limited to, force and critical infrastructure protection services, security planning and technical assistance, technological support, and general supplemental law enforcement personnel.

The mission of incident responders must be clear upon the deployment of any Federal support to an affected area under mutual aid agreements, the Stafford Act, the Emergency Federal Law Enforcement Assistance Act, or other proper authorities. Federal law enforcement activities are severely limited without specific statutory authority or authorization by the Chief Executive Officer of the state where the emergency has occurred. In order to enforce state and local laws and ordinances, including making arrests, Federal law enforcement personnel must be acting pursuant to an express authorization under either Federal or state law, and the Federal officers must comply with the Purpose Act, 31 U.S.C. § 1301(a) (2006), which requires that Federal funds be used for a particular object or purpose authorized by a law. Indemnification issues must be resolved prior to any deployment.

When Federal law enforcement support is authorized to act in a declared disaster area pursuant to ESF #13, under the NRF, it is important that agents operate with clear guidance on the use of force, up to and including deadly force. In the absence of direction by the Attorney General to the contrary, Federal law enforcement agents will continue to employ the use of force policy of their originating department or agency.

Insufficient resources can greatly impact the ability of responders to protect people and property. Logistical management is a key to a successful engagement by Federal law enforcement. In addition,

shortages in interoperable communications systems would severely limit the ability to communicate and coordinate across all levels of a response initiative. Insufficient equipment (e.g., Global Positioning System navigation) to navigate an environment with destroyed or severely damaged infrastructure is another potential logistical shortfall which would limit the ability of law enforcement personnel to navigate the incident area where security and protection are needed.

Assumptions

General assumptions for the Response FIOP have been identified in the base plan.

Mission

Federal interagency partners will support the jurisdiction in their responsibility to establish a safe and secure environment in the affected area by providing and maintaining the protection needs of the affected population, while eliminating or mitigating the risk of further damage to persons, property, and the environment.

Execution

Concept of Operations

Phase 1

DOJ's Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) is the ESF #13 Primary Coordinating Agency, responsible for developing operational and tactical plans, and coordinating planning, training, and exercises with state ESF #13 Coordinators and other relevant emergency management personnel. To provide surge capacity in the event of an emergency or disaster, DOJ Regional Law Enforcement Coordinators coordinate with local, state, tribal, territorial, and insular area officials to assess capabilities and expected needs in the event of a disaster. State laws will be examined to determine whether and under what circumstances Federal law enforcement may exercise state or local law enforcement authority in the state and any mechanism to grant further authorities to responding Federal agents. In addition, the department collects information and analyzes incongruities between local, state, tribal, territorial, and insular area law enforcement guidelines to prepare for potential engagement by Federal law enforcement personnel.

Phase 2

ESF #13 Field Support Teams, led by a Special Agent Regional Law Enforcement Coordinator, conduct an assessment of the impacted area and identify resource needs and requirements. Liaison Officers are deployed to the NRCC, activated RRCCs, and JFOs, and Field Support Teams are deployed to state EOCs to determine public safety and security needs in support of the governor's request pursuant to the Stafford Act. ESF #13 does not assume responsibility for investigative aspects related to an incident.

The ATF, working through FEMA, may utilize existing Federal contracts with private sector entities to provide security personnel and secure transportation assets (e.g., rental cars for law enforcement use) based on incident requirements.

The ability of Federal law enforcement personnel to integrate with local, state, tribal, territorial, and insular area components depends on their authority to enforce local, state, tribal, territorial, and insular area laws and ordinances. Any Federal enforcement of local, state, tribal, territorial, and insular area laws and ordinances will require specific statutory authority that expressly provides Federal Law Enforcement Officers (FLEO) with the ability to enforce such laws, either through

direct statutory grants of authority to FLEOs or express deputation statutes. Without such statutory authority, FLEOs do not have the authority to enforce those laws.

Phase 3a

ESF #13 Federal departments and agencies continue to develop and maintain relationships with local, state, tribal, territorial, and insular area law enforcement officials throughout the remainder of response and recovery operations to determine any additional security or law enforcement needs.

Federal law enforcement departments and agencies continue to support the local law enforcement agency until it is capable of transitioning to full control.

Coordinating Structure

Many ESFs support the On-scene Security, Protection, and Law Enforcement core capability. The ESFs that perform tasks under this core capability are summarized in Figure C.8-1. Specific tasks conducted by these ESFs are identified in the Tasks by Phase, by ESF section below.

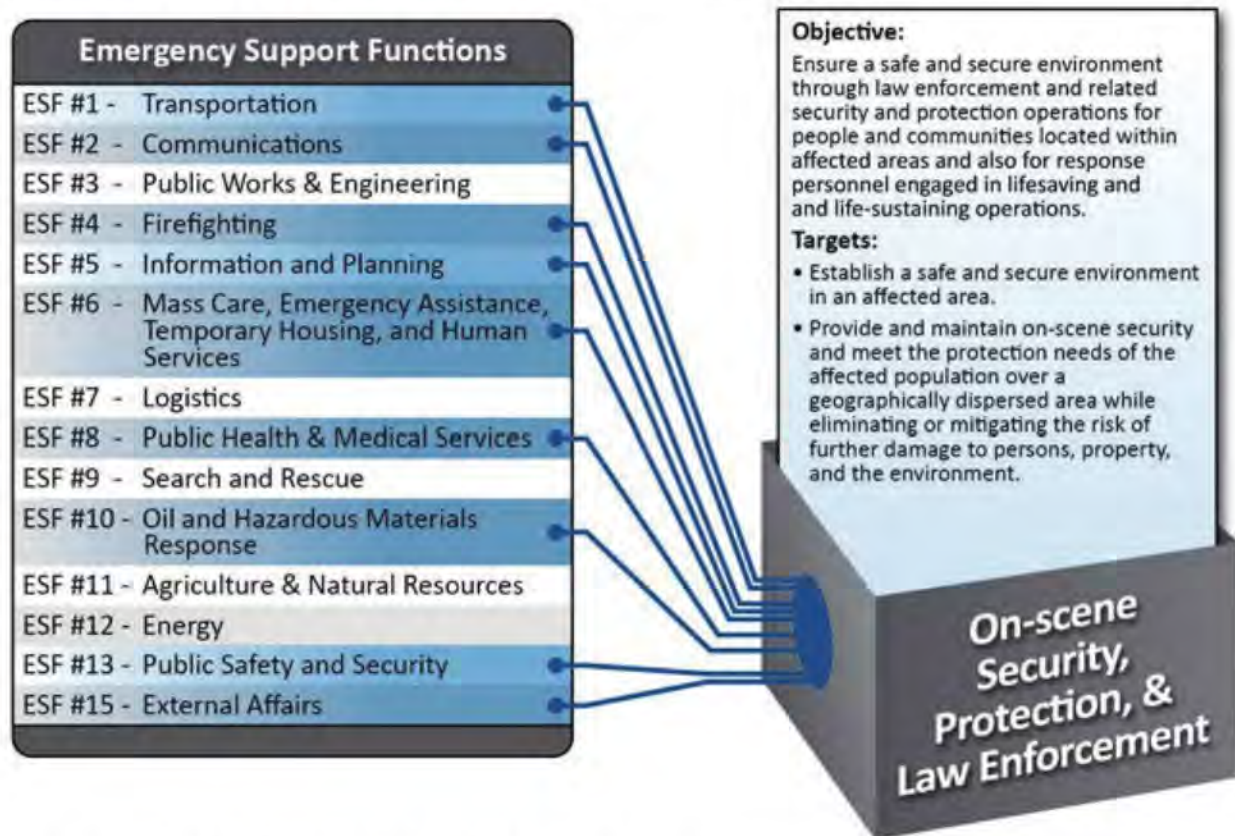


Figure C.8-1: Coordination of ESF Support to On-scene Security, Protection, and Law Enforcement

Local law enforcement responsibility and authority rests with local, state, tribal, territorial, and insular area law enforcement departments and agencies. During disasters or acts of terrorism, when these departments and agencies are overwhelmed and unable to fulfill their public safety and security missions, additional resources should be obtained through mutual aid and assistance agreements such as the EMAC and/or activation of the state National Guard. Once it is determined that these means of support are exhausted, unavailable or inadequate, Federal public safety and security needs can be supported by a request through ESF #13.

ESF #13 provides the primary support to the delivery of this core capability. The Primary Agency responsible for coordination is the DOJ/ATF, with assistance from other DOJ components, including the Drug Enforcement Administration, FBI, Bureau of Prisons, and U.S. Marshals Service, as required. ESF #13 utilizes resources from many of the Federal law enforcement departments and agencies within the United States through the whole of the Federal law enforcement community.

These supporting departments and agencies provide technical subject matter expertise, data, equipment, and staff support for operations, as requested by ESF #13.

DOJ coordinates all ESF #13 activities at the national level and across all 10 FEMA regions.

ESF #13 liaison personnel are deployed to staff the NRCC, RRCCs, JFO, and/or state EOCs during activations and/or to other EOCs, when required. ATF, in coordination with ESF #13 supporting departments and agencies, coordinates with various operations centers, as necessary.

Private sector/nongovernmental security forces continue to perform their assigned safety and security missions to the best of their ability. All departments and agencies retain authority over their personnel, but operational command may be shifted during the incident to coordinate response.

When necessary, the Attorney General will appoint a Senior Federal Law Enforcement Official to coordinate all Federal law enforcement, public safety, and security operations. The Senior Federal Law Enforcement Official serves as a member of the UCG and is responsible for ensuring that law enforcement requirements and resource allocations are coordinated with other components of the UCG. Under such circumstances, the Senior Federal Law Enforcement Official may rely on ESF #13 Liaison Officers' and Field Support Teams' assessments when planning the Federal law enforcement response, including whether Federal Law Enforcement Coordination Centers are needed. The Senior Federal Law Enforcement Official will identify, for example, whether Federal resources are needed to move prisoners, protect critical infrastructure, or conduct security planning.

ESFs that provide support to the delivery of the On-scene Security, Protection, and Law Enforcement core capability are included in the following section.

On-scene Security, Protection, and Law Enforcement Tasks

Mission Objectives

- **OP-MO-1:** Coordinate planning and operational analysis, and locate and inventory equipment to deliver On-scene Security, Protection, and Law Enforcement. (Supports OP-Critical Task-1)
- **OP-MO-2:** Analyze, prioritize, and allocate Federal law enforcement resources to support local, state, tribal, territorial, and insular area jurisdictions. (Supports OP-Critical Task-2)
- **OP-MO-3:** Provide law enforcement functions, in support of local, state, tribal, territorial, and insular area jurisdictions, which may fall outside of traditional patrol and investigation duties. (Supports OP-Critical Task-1, OP-Critical Task-2)

Phase 1a—Normal Operations

End State: Equipment and personnel are maintained in a readiness state. Coordinated planning across Federal law enforcement departments and agencies, coupled with procedures for rapid recall and deployment of personnel have been established and exercised. (Supports OP-MO-1)

- Tasks by Phase, by ESF
 - ESF #5
 - ♦ Review and update existing plans.

- Conduct the appropriate technical security and/or vulnerability assessments.
- Provide expertise and coordination for stakeholder security planning efforts and conducting technical assessments.
- Develop PSMAAs and contracts for providing security personnel and resources.
- ESF #13
 - Provide mechanisms for vertical and horizontal coordination, communications, and information-sharing on a standardized platform accessible by all partners.
 - Synchronize planning, training and exercises, after-action reviews, and corrective action plans with local, state, tribal, territorial, insular area, and Federal partners.
 - Provide expertise and coordination for stakeholder security planning efforts and conducting technical assessments.
 - Plan, train, exercise, and organize to build, sustain, and improve operational capabilities within the whole community.
 - Coordinate with stakeholders and maintain situational awareness of their available resources to include personnel availability to assist in the public safety and security efforts.
 - Develop PSMAAs with Federal departments and agencies to expedite the mission assignment process for providing supplemental personnel and resources.
 - Review and update existing response plans and standard operating procedures.
 - Develop operational objectives for coordination of Federal law enforcement resources.
 - Assist state law enforcement and government officials in determining the methodology by which FLEOs may be granted state law enforcement authority during ESF #13 responses if statutory authority exists for such.

Phase 1b—Elevated Threat

End State: Federal law enforcement assets have been inventoried for recall, based upon pre-incident intelligence. (Supports OP-MO-1)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations

Phase 1c—Credible Threat

End State: Assessment teams have pre-deployed to staging areas, as needed. (Supports OP-MO-2)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, and 2b, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 2a—Immediate Response

End State: Local, state, tribal, territorial, and insular area law enforcement capabilities have been identified, and possible mission assignments are determined based upon operational objectives. (Supports OP-MO-2)

- Tasks by Phase, by ESF
 - ESF #1
 - ♦ Contribute to shared situational awareness on the status of airports.
 - ESF #5
 - ♦ Coordinate alerts and notifications; staffing and deployment of DHS and FEMA response teams, as well as response teams from other Federal departments and agencies; incident action planning; operations; logistics management; direction and control; information collection, analysis, and management; facilitation of requests for Federal assistance; resource acquisition and management; Federal worker safety and health; facilities management; financial management; and other support as required.
 - ♦ Coordinate the use of remote sensing and reconnaissance operations, activation and deployment of assessment personnel or teams, and geospatial and GIS support needed for incident management.
 - ♦ Coordinate the provision of security for field operational structures (e.g., JFO, ISBs) and deployed FEMA assets.
 - ♦ Conduct the appropriate technical security and/or vulnerability assessments of field operational structures.
 - ESF #8
 - ♦ Provide veterinary medical support to deployed working animals (typically dogs and horses).
 - ESF #13
 - ♦ Activate a headquarters-level ESF #13 coordinator for Federal law enforcement operations.
 - ♦ Activate and deploy an ESF #13 Field Support Team to the affected area(s). The ESF #13 Field Support Teams liaise with local, state, tribal, territorial, and insular area departments and agencies to determine law enforcement requirements.
 - ♦ Coordinate with local, state, tribal, territorial, and insular area jurisdictions to determine if law enforcement shortfalls are anticipated.
 - ♦ Determine availability of safety and security resources within all ESF #13 departments and agencies for potential deployments to the affected area.
 - ♦ Review laws and regulations in potentially affected jurisdictions to determine if explicit authority exists and/or if statutory deputation authority is available, needed, or advised.
 - ♦ Coordinate with ESF #7 to provide potential requirements for base camp and other resources for ESF #13 deployed personnel.
 - ♦ Coordinate with ESF #8 to provide additional security in support of medical assets and staff.

- ♦ Provide status reports on Federal law enforcement capabilities, deployments, and operations throughout the affected area(s).
- ♦ Deploy additional Federal law enforcement assets and personnel when requested and approved.
- ♦ Identify law enforcement shortfalls and the need for mission assignment assistance through ESF #13.
- ♦ Coordinate with other Federal departments and agencies to identify additional security requirements or unidentified shortfalls.
- ♦ Coordinate logistical support to Federal law enforcement resources to support field operations.
 - Give priority to lifesaving missions first, followed by missions that address security and the protection of infrastructure/property.
 - Activate and deploy general and specialized Federal law enforcement resources to support local, state, tribal, territorial, insular area, and Federal law enforcement departments and agencies overwhelmed by disasters or acts of terrorism.

Phase 2b—Deployment

End State: Federal law enforcement resources and capabilities have been prioritized, activated, and deployed in support of local, state, tribal, territorial, and insular area entities. (Supports OP-MO-2, OP-MO-3)

- Tasks by Phase, by ESF
 - ESF #1
 - ♦ Initiate deployment of Transportation Security Forward Team (Transportation Security Officers) if required by the Transportation Security Advance Team.
 - ESF #2
 - ♦ Coordinate Federal actions to assist industry in stabilizing and reestablishing the public communications infrastructure thereby allowing alerts, which will facilitate the dissemination of instructions relative to the delivery of On-scene Security, Protection, and Law Enforcement information to the public.
 - ESF #5
 - ♦ Activate ESF #5 at the national and regional level to provide coordination and technical assistance.
 - ESF #8
 - ♦ Provide counseling and basic psychological support, ensure chain of custody of evidence, and fingerprint the remains to identify fatalities.
 - ESF #10
 - ♦ Secure access to oil/hazardous materials contaminated areas, through EPA/USCG OSCs and local, state, tribal, territorial, and insular area law enforcement officials. EPA's National Criminal Enforcement Response Team may assist ESF #10 in coordinating with law enforcement officials (and also supports ESF #13 as needed).

- ESF #13
 - ♦ Deploy ESF #13 Field Support Teams to coordinate with local, state, tribal, territorial, and insular area partners, assess law enforcement capabilities, and provide situational awareness for determining operations objectives.
 - ♦ Coordinate with local, state, tribal, territorial, and insular area jurisdictions to evaluate changes in security requirements within the affected area.
 - ♦ Deploy Federal law enforcement resources and capabilities in support of local, state, tribal, territorial, insular area, and Federal authorities.
 - ♦ Provide security forces and establish protective measures around the incident site, critical infrastructure, and/or critical facilities.
 - ♦ Provide force protection services for the protection of emergency responders and other workers operating in a high-threat environment, and for the operational security of emergency response operations wherever they may occur.
 - ♦ Provide specialized LE assets to support state and local LE as needed.
 - ♦ Assist state and local law enforcement in conducting perimeter enforcement in quarantine zones during an animal health emergency.
- ESF #15
 - ♦ Coordinate and provide public messaging on movement restrictions and curfews to keep the public informed and provide crowd control.

Phase 2c—Sustained Response

End State: Federal law enforcement support to local, state, tribal, territorial, and insular area law enforcement entities has been provided. Deployed Federal resources have been re-tasked upon completion of mission assignments, as appropriate. (Supports OP-MO-1, OP-MO-2, OP-MO-3)

- Tasks by Phase, by ESF
 - ESF #11
 - ♦ Coordinate with ESF #13 to ensure protection/provide security for sensitive records in all formats.
 - ESF #13
 - ♦ Assess projected local, state, tribal, territorial, and insular area law enforcement shortfalls and operational objectives that have been achieved based on information provided by those departments and agencies.
 - ♦ Determine if additional resources are needed or if current resources should be redeployed to other areas or demobilized.
 - ♦ Augment resources and capabilities for Federal operations and in support of local, state, tribal, territorial, and insular area authorities.
 - ♦ Rotate out Federal law enforcement resources as needed to minimize fatigue and maintain capabilities.
 - ♦ In cases in which the Federal Government exercises primary law enforcement and security responsibilities, determine operational strategy for transitioning primary law

enforcement and security responsibilities to local, state, tribal, territorial, and insular area law enforcement officers.

Phase 3a—Short-term Recovery

End State: Through continued operational analysis, local, state, tribal, territorial, and insular area law enforcement needs have been reviewed and assessed to determine when Federal law enforcement demobilization is required. (Supports OP-MO-1, OP-MO-2)

- Tasks by Phase, by ESF
 - ESF #13
 - ♦ Begin orderly transition to demobilization and transition of law enforcement functions to local, state, tribal, territorial, and insular area authorities.

Administration and Support

All On-scene Security, Protection, and Law Enforcement core capability stakeholders will follow their predefined activation, notification, deployment, and deactivation procedures.

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Appendix 9 to Annex C: Fire Management and Suppression

Purpose

The purpose of this appendix is to describe the delivery of the Fire Management and Suppression core capability.

The Fire Management and Suppression core capability provides structural, wildland, and specialized firefighting capabilities in order to manage and suppress fires of all types, kinds, and complexities while protecting the lives, property, and environment in the affected area.

The Fire Management and Suppression (FS) critical tasks are as follows:

- **FS-Critical Task-1.** Provide traditional first response or initial attack firefighting services based on the requirements of local, state, and Federal authorities.
- **FS-Critical Task-2.** Conduct expanded or extended attack firefighting and support operations through coordinated response of fire management and specialized fire suppression resources.
- **FS-Critical Task-3.** Ensure the coordinated deployment of appropriate local, regional, national, and international fire management and fire suppression resources to reinforce firefighting efforts and maintain an appropriate level of protection for subsequent fires.

Situation

Fire causes, and is caused by, many of the disasters and emergencies in our Nation. The management and suppression of fires is a key lifesaving aspect of many responses. The Federal Government may support to local, state, tribal, and territorial firefighting efforts by providing firefighting resources including but not limited to wildland firefighting resources, structural firefighting resources, and incident management resources.

Firefighting is an inherently local responsibility. Local fire resources often receive assistance from other fire departments/agencies through established mechanisms identified in local mutual aid agreements. Further assistance may be obtained through an established intrastate mutual aid system. If additional assistance is required, firefighting resources can be requested from other jurisdictions through processes established under mutual aid agreements, state-to-state or regional compacts, or other agreements. If the governor of the affected state has declared an emergency, firefighting resources may be requested through the Emergency Management Assistance Compact (EMAC).

If the President has declared an emergency or major disaster under the Stafford Act, firefighting resources may also be requested through ESF #4. Using existing authorities and agreements, ESF #4 can mobilize wildland and structure firefighting resources from across the country and from several foreign countries through the existing firefighting mobilization system to incidents anywhere in the United States. The existing mobilization system is managed by the USDA Forest Service.

USDA Forest Service is co-coordinator and primary agency for ESF #4, and coordinates at the national and regional levels with the Federal Emergency Management Agency (FEMA); appropriate state, tribal, territorial, and insular area agencies; and cooperating agencies on issues related to response activities.

FEMA/U.S. Fire Administration is co-coordinator and a support agency for ESF #4 and coordinates with appropriate state, tribal, territorial and insular area agencies and local fire departments to expand structural firefighting resource capacity in the existing mobilization system and provide information on protection of emergency services sector critical infrastructure.

Assumptions

General assumptions for the Response FIOP have been identified in the base plan.

Mission

Federal interagency partners will initiate and conduct firefighting operations based on the requirements of local, state, tribal, territorial, and insular area authorities. These Federal interagency partners will also ensure synchronization of deployed Federal, Regional, local, and international firefighting resources to reinforce ongoing firefighting efforts and maintain an appropriate level of protection for subsequent fires.

Execution

Concept of Operations

General

- ESF #4 coordinates Federal firefighting activities and provides firefighting personnel, equipment, and supplies in support of local, state, and tribal wildland, rural, and urban firefighting agencies nationwide.
- ESF #4 uses established firefighting and support organizations, processes, and NIMS procedures as outlined in the National Interagency Mobilization Guide to mobilize wildland, structural and specialized firefighting resources. All requests for firefighting resources are coordinated through the existing mobilization system managed by USDA/Forest Service. Responsibility for situation assessment and determination of resource needs lies primarily with the local Incident Commander.
- Both wildland and structural firefighting resources can be mobilized through the existing mobilization system. The mobilization of specialized or additional structural firefighting resources not populated in the Resource Ordering and Status System (ROSS) can be accomplished manually using NIMS procedures through the appropriate Geographic Area Coordination Center (GACC) and local dispatch center(s).
- Resources provided through ESF #4 are guided by the U.S. Forest Service Foundational Doctrine for All-Hazard Response and NIMS.
- States have the option of requesting intrastate and interstate firefighting assistance and resources, both utilizing existing agreements. Intrastate resources would be requested under local or statewide mutual aid and assistance agreements. Interstate resources, including National Guard firefighting resources from other states, would be requested through the Emergency Management Assistance Compact, other compacts, or state-to-state mutual aid and assistance agreements.
- Upon receiving a Mission Assignment, requests for Federal assistance in obtaining firefighting resources are transmitted from the Regional Response Coordination Center (RRCC) or Joint Field Office (JFO) ESF #4 representative to the appropriate GACC. For resources beyond those available within the geographic area, the requests are sent to the National Interagency Coordination Center (NICC) in Boise, ID, by the GACC Coordinator. The NICC contacts the national ESF #4 coordinator in the event of national-level shortages or unavailability of needed resources.

- All Federal military personnel and resources for firefighting and incident management activities will be requested through the NICC in coordination with the Defense Coordinating Officer and the NRCC.
- Shortages of critical resources are adjudicated at the lowest jurisdictional level. If needed, resolution would begin at the JFO, then progress to the NRCC, and ultimately to the Domestic Resiliency Group (DRG).
- Actual firefighting operations are managed at the local level under the ICS element of the NIMS.
- Situation and damage assessment information is transmitted through established channels and directly between the headquarters-level and regional-level response support structures according to NIMS procedures.

Organization

ESF #4 has a parallel structure at the national and regional levels.

Headquarters-Level Response Support Structure

- The ESF #4 Primary Agency provides subject matter expertise to the DRG and to other departments/agencies at the headquarters level. Based on recommended Department of Homeland Security (DHS)/FEMA requirements, ESF #4 may be operational on a 24-hour basis.
- While operational, ESF #4, through the NRCC, provides subject-matter expertise as needed to FEMA and other ESFs. DOI, USFA, and other Support Agencies have representatives available at the NRCC or by telephone or pager on a 24-hour basis while ESF #4 is operational.
- The NICC provides national logistics support and mobilization of national firefighting resources.

Regional-Level Response Support Structure

- The ESF #4 Primary Agency regional/area office coordinates Federal firefighting response support and is responsible for establishing and maintaining coordination with regional support agencies, regional FEMA officials, the JFO, and the ESF #4 Primary Agency at the headquarters level.
- While operational, ESF #4, through the RRCC/JFO, provides subject matter expertise as needed to FEMA and other ESFs. DOI, USFA, and other Support Agencies have representatives available at the RRCC/JFO or by telephone or pager on a 24-hour basis while ESF #4 is operational.
- GACCs provide regional firefighting response, mobilization of resources, and logistics support.

Notification

Upon notification of a potential or actual event requiring ESF #4 response, the ESF #4 Primary Agency notifies the ESF #4 Primary Agency regional/area office, the NICC, DOI, USFA, and other Support Agencies, and the USDA.

National preparedness levels for wildland fire suppression planning are established by the National Multiagency Coordinating Group (NMAC) in the National Interagency Mobilization Guide. When competition for wildland fire resources occurs which may impact response to all-hazards incidents, the NMAC will establish wildland fire priorities, making decisions on resource allocations.

USDA Forest Service coordinates at the national and regional levels with FEMA, appropriate state, territorial, tribal, and insular area agencies, and cooperating agencies on all issues related to response activities.

FEMA/U.S. Fire Administration coordinates with appropriate state, territorial, tribal, and insular agencies and local fire departments to expand structural firefighting resource capacity in the existing national firefighting mobilization system and provide information on protection of emergency services sector critical infrastructure.

Phase 1

National preparedness levels for wildland fire suppression planning are established by the National Multiagency Coordinating Group (NMAC) in the National Interagency Mobilization Guide. When competition for wildland fire resources occurs which may impact response to all-hazards incidents, the NMAC will establish wildland fire priorities, making decisions on resource allocations.

USDA Forest Service coordinates at the national and regional levels with FEMA, appropriate state, territorial, tribal, and insular area agencies, and cooperating agencies on all issues related to response activities.

FEMA/U.S. Fire Administration coordinates with appropriate state, tribal, territorial, and insular agencies and local fire departments to expand structural firefighting resource capacity in the existing mobilization system and provide information on protection of emergency services sector critical infrastructure.

Phase 2

Initial Response Actions:

- The ESF #4 Primary Agency:
 - Reports to the NRCC. Establishes communication links with DOI, USFA, and other Support Agencies, the USDA Emergency Operations Center, the National Director for Fire and Aviation Management at USDA/Forest Service Headquarters, and USDA/Forest Service Assistant Director Operations at the NIFC. Establishes communication links with the appropriate regional/area ESF #4 coordinator(s).
 - Obtains an initial fire situation and damage assessment through established intelligence procedures; determines the appropriate management response to meet the request for assistance; and obtains and distributes, through appropriate channels, incident contact information to emergency responders mobilized through ESF #4.
 - Coordinates all requests for wildland or structural firefighting resources through the existing national firefighting mobilization system.
 - Analyzes each request before committing people and other resources; ensures employees will be provided with appropriate vaccinations, credentials, and PPE to operate in the all-hazard environment to which they are assigned; and ensures that all employees involved in all-hazard response will be supported and managed by an agency leader, agency liaison, or interagency Incident Management Team.
 - Ensures that an all-hazard incident-specific briefing and training are accomplished prior to task implementation. This preparation will usually occur prior to mobilization where incident description, mission requirements, and known hazards are addressed. Key protective equipment and associated needs for tasks that employees do not routinely encounter or perform will be identified.

Continuing Response Actions:

- The ESF #4 Primary and Support Agencies, as appropriate:

- Obtain, maintain, and provide incident situation and damage assessment information through established procedures.
- Provide assistance with assessment of impacted emergency services sector critical infrastructure.
- Coordinate incident resource needs, and determine and resolve, as necessary, issues regarding resource shortages and resource ordering issues.
- Maintain close coordination through the NRCC with the DRG, RRCC, support agencies, NICC, and JFO.
- Maintain a complete log of actions taken, resource orders, records, and reports.

Phase 3a

Federal firefighting support is primarily a response function. Efforts should be made to ensure that firefighting resources are managed and utilized appropriately so they can be available for assignments involving lifesaving, incident stabilization, and protection of property, critical infrastructure, and the environment. Otherwise, the Nation's capability to respond to new emergencies may be compromised. ESF #4 may provide support to enhance the resilience of local, state, and tribal firefighting agencies.

Coordinating Structure

ESF #4 is the main provider of the Fire Management and Suppression core capability. The ESFs that perform tasks under this core capability are summarized in Figure C.9-1. Specific tasks conducted by these ESFs are identified in the Tasks by Phase, by ESF section below.

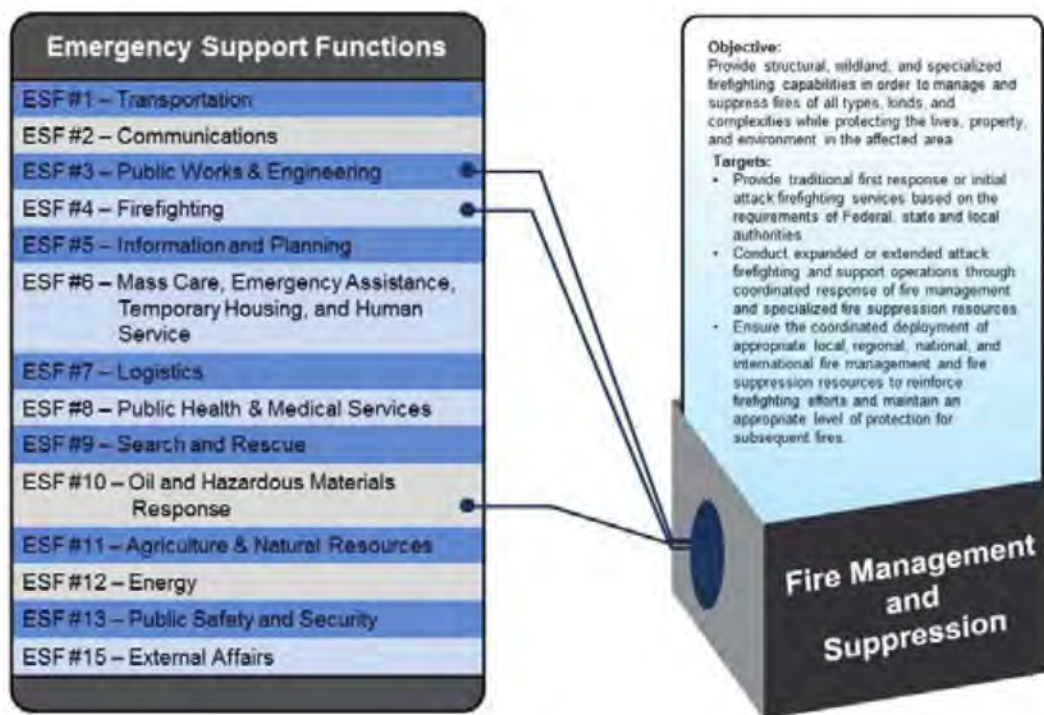


Figure C.9-1: Coordination of ESF Support to Fire Management and Suppression.

Fire Management and Suppression Tasks

Mission Objectives

- **FS-MO-1:** Conduct firefighting operations, in close coordination with the affected jurisdictions, and in synchronization with local, state, Federal and international firefighting resources. (Supports FS-Critical Task-1, FS-Critical Task-2, FS-Critical Task-3)
- **FS-MO-2:** Identify, activate, and deploy Federal fire management and fire suppression resources, including state and local fire management and fire suppression resources under agreement, needed to support firefighting operations. (Supports FS-Critical Task-1, FS-Critical Task-2)
- **FS-MO-3:** Coordinate the mobilization and deployment of appropriate local, regional, national, and international fire management and fire suppression resources, in close coordination with the affected jurisdictions. (Supports FS-Critical Task-3)

Phase 1a—Normal Operations

End State: Local, state, and Federal fire management and suppression personnel have been inventoried, trained, and properly equipped. (Supports FS-MO-1)

- Tasks by Phase, by ESF
 - ESF #4
 - ♦ Ensure Federal fire management and suppression resources are available for activation.

- ♦ Ensure that an adequate amount of technical specialists required for support are available for deployment.
- ♦ Ensure that Incident Management Teams are rostered and are able to mobilize for rapid deployment and can be self-sufficient for 72 hours for a response assignment of up to 14 days.
- ♦ Provide contact with appropriate fire service organizations/associations at the national level to ensure any actions by these organizations relative to disaster planning, preparedness or response are coordinated with the ESF #4 primary agency and other appropriate support agencies.
- ♦ Disseminate information to improve the infrastructure protection efforts within the emergency services sector.
- ♦ Provide fire/weather forecasting as needed from the National Interagency Fire Center in Boise, ID, or from a nearby National Weather Service Forecast Office under the terms of existing interagency agreements.
- ♦ Provide urban and industrial hazard analysis support through the Engineering Laboratory of the National Institute of Standards and Technology.

Phase 1b—Elevated Threat

End State: Additional planning, training, and exercises have been conducted in coordination with local, state, and Federal entities. (Supports FS-MO-1, FS-MO-2)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. These include any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 1c—Credible Threat

End State: Personnel and resources have been identified and pre-deployed to staging areas. (FS-MO-2 and FS-MO-3)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. These include any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 2a—Immediate Response

End State: Personnel and resources have been identified, inventoried, activated, mobilized and deployed to the impacted area. Coordinated fire management and suppression operations have begun. (Supports FS-MO-1, FS-MO-2, FS-MO-3)

- Tasks by Phase, by ESF
 - ESF #3
 - ♦ Provide contracting services through ESF #3 to urban and rural firefighting forces to obtain heavy equipment and/or demolition services as needed to suppress incident-related fires.

- ESF #4
 - ♦ Assume full responsibility for suppression of wildfires burning on Federal lands and joins in a unified command with the local jurisdiction on incidents threatening Federal lands.
 - ♦ Coordinate Federal firefighting activities by mobilizing firefighting resources in support of local, state, tribal, territorial, and insular area wildland, rural, and urban firefighting agencies nationwide.
 - ♦ Provide command, control, and coordination resources, to include incident management teams, area command teams, and multiagency coordination group support personnel, to local, state, tribal, territorial, insular area, and Federal agencies in support of firefighting and emergency operations.

Phase 2b—Deployment

End State: Additional Federal personnel and resources, including state and local fire management and suppression resources under agreement, have been deployed to conduct firefighting operations, supplementing existing local, state, and Federal resources. (Supports FS-MO-2, FS-MO-3)

- Tasks by Phase, by ESF
 - ESF #4
 - ♦ Provide and coordinate firefighting assistance to other Federal land management; state forestry; and local, tribal, territorial, and insular area fire organizations as requested under the terms of existing agreements and the National Response Framework (NRF).
 - ♦ Provide logistics support through the appropriate Geographic Area Coordination Center and/or National Interagency Coordination Center for mobilizing resources for firefighting.
 - ♦ Arrange for and provide direct liaison with local, state, tribal, territorial, and insular area Emergency Operations Centers and fire chiefs in the designated area, as appropriate, to coordinate requests for firefighting assistance in structural or industrial fire detection, protection, and suppression operations.
 - ♦ Establish liaison with EMAC personnel on governor to governor requests for firefighting resources to ensure the ESF#4 primary agency and appropriate support agencies are aware of any firefighting resources provided through EMAC.
 - ♦ Coordinate with foreign governments on identification and movement to the United States of assets and resources for firefighting assistance.
 - ♦ Provide forecasts of the dispersion of smoke in support of planning and response activities.
 - ESF #10
 - ♦ Provide technical assistance and advice in the event of fires involving hazardous materials.
 - ♦ Provide assistance in identifying an uncontaminated, operational water source for firefighting.
 - ♦ Provide technical assistance on issues concerning the impacts of firefighting chemicals on wastewater treatment facilities.

Phase 2c—Sustained Response

End State: Final fire management and fire suppression operations have been conducted; support for fire protection activities in the affected area continues. (Supports FS-MO-3)

- Tasks by Phase, by ESF
 - ESF #4
 - ♦ Provides assistance with assessment of impacted emergency services sector critical infrastructure.
 - ♦ Provides support to enhance the resilience of local, state, tribal, territorial, and insular area firefighting agencies.

Phase 3a—Short-term Recovery

End State: Fire management, fire suppression, and fire protection operations have concluded and remaining activities are transitioned to recovery operations. (Supports FS-MO-3)

- Tasks by Phase, by ESF
 - ESF #10
 - ♦ Provides assistance in identifying critical water systems requiring priority restoration for firefighting.

Administration and Support

Fire management and suppression resources will be mobilized through the existing firefighting mobilization system and will comply with procedures for activation, notification, deployment, and deactivation as identified in the National Interagency Mobilization Guide. Except where specified in agreements or through a formal delegation of authority, assisting firefighting resources report to and become part of the command structure of the requesting jurisdiction.

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Appendix 10 to Annex C: Synchronization Matrix

Introduction

The overall strategy from the National Preparedness Goal informs and guides each level of the Response FIOP. The preliminary targets in the National Preparedness Goal, which became critical tasks in the National Response Framework (NRF), inform the mission objectives (MO) for each core capability. The MOs are used to establish desired end states for each phase of a core capability's response, as well as the corresponding tasks under each phase.

The synchronization matrix illustrates this relationship by mapping the MOs to the phases that are supported. In doing this, the synchronization matrix visually depicts a high-level view of each core capability's level of effort at each phase of the response effort. The shaded cells identify the phase(s) that each MO corresponds to. Taken overall, the matrix provides a broad view of when and how a core capability engages in the response effort.

Table C.10-1: Core Capability Mission Objectives

Core Capability	Mission Objective	P	H	A	S	E
		1a	2a	2b	2c	3a
Planning (P)	P-MO-1: Utilize an integrated planning process to develop a coordinated operational plan across local, state, tribal, territorial, insular area, and Federal jurisdictions. (Supports P-Critical Task-1)					
	P-MO-2: Based on the operational plan, identify critical objectives across the mission areas and operational phases. (Supports P-Critical Task-1)					
	P-MO-3: Identify required resources to achieve the critical objectives in the most effective and cost-effective manner. (Supports P-Critical Task-1)					
	P-MO-4: Identify, sequence, and scope tasks to achieve measurable objective targets. (Supports P-Critical Task-1)					
Public Information and Warning (PI)	PI-MO-1: Coordinate the development and delivery of emergency services and public messaging with affected jurisdictions, including the private sector and NGOs. (Supports PI-Critical Task-1, PI-Critical Task-2)					
	PI-MO-2: Monitor, analyze, and validate incoming information. (Supports PI-Critical Task-2)					

Core Capability	Mission Objective	P	H	A	S	E
		1a	2a	2b	2c	3a
Operational Coordination (OCD)	OCD-MO-1: Facilitate a planning, training, and exercising process utilizing NIMS to enable responders to work in a coordinated manner to meet the needs of disaster survivors. (Supports OCD- Critical Task-2)					
	OCD-MO-2: Gain and maintain shared situational awareness and understanding through a consistent operational analysis. (Supports OCD-Critical Task-1, OCD-Critical Task-2)					
	OCD-MO-3: Establish and maintain command, control, and coordination utilizing NIMS. (Supports OCD-Critical Task-2)					
	OCD-MO-4: Mobilize and establish Federal assets within the impacted area to support the Federal command and coordination structure. (Supports OCD-Critical Task-1)					
	OCD-MO-5: Facilitate the execution of Response core capabilities across local, state, tribal, territorial, insular area, Federal, private sector, and NGOs. (Supports OCD-Critical Task-1, OCD-Critical Task-2)					
Fatality Management Services (FM)	FM-MO-1: Coordinate planning and operational analysis to deliver FM support to the affected jurisdictions. (Supports FM-Critical Task-1)					
	FM-MO-2: Procure and employ Federal resources, in coordination with the affected jurisdictions, to support FM services, including: body recovery, identification of remains, temporary mortuary solutions, and the provision of counseling services to the bereaved. (Supports FM-Critical Task-1)					
Critical Transportation (TR)	TR-MO-1: Coordinate the planning and operational analysis to deliver critical transportation requirements. (Supports TR-Critical Task-1, TR-Critical Task-2)					
	TR-MO-2: Conduct assessments of the condition and safety of transportation pathways and plan accordingly. (Supports TR-Critical Task-1, TR-Critical Task-2)					
	TR-MO-3 Prioritize the restoration of damaged/unusable pathways, identify alternate pathways, and coordinate rapid repairs to facilitate responder access and provide basic services. (Supports TR-Critical Task- 1)					
	TR-MO-4: Assess resource requirements to support the reconstitution of the transportation infrastructure. (Supports TR-Critical Task-2)					
	TR-MO-5: Prioritize, adjudicate, and allocate resources to deliver critical transportation requirements. (Supports TR-Critical Task-2)					

Core Capability	Mission Objective	P	H	A	S	E
		1a	2a	2b	2c	3a
	TR-MO-6: Support the evacuation of disaster survivors. (Supports TR-Critical Task-1, TR-Critical Task-2)					
	TR-MO-7: Provide delivery of vital response personnel, equipment, and services into the impacted area. (Supports TR-Critical Task-1)					
	TR-MO-8: Respond to, coordinate, and prioritize the delivery of resources to disaster survivors and responders in the impacted area. (Supports TR-Critical Task-2)					
Environmental Response/Health and Safety (EH)	EH-MO-1: Determine the appropriate environmental response actions and protective measures for response workers and recommend protective measures to the public. (Supports EH-Critical Task-1)					
	EH-MO-2: Provide technical assistance and identify specific environmental risks and safety and health hazards throughout the duration of the response, develop health and safety plans, activate and deploy required Environmental Response/Health and Safety resources for responder safety. (Supports EH-Critical Task-1)					
	EH-MO-3: Provide incident-specific response worker health and safety and/or other related training. (Supports EH-Critical Task-1)					
	EH-MO-4: Coordinate planning and operational analysis among public, private, and nongovernmental sector services to deliver environmental response/health and safety requirements. (Supports EH-Critical Task- 2)					
	EH-MO-5: Analyze, prioritize, and allocate resources to identify and employ Federal resources to support operations for the delivery of Environmental Response/Health and Safety Environmental Response/Health and Safety capabilities. (Supports EH-Critical Task-2)					
	EH-MO-6: Alert, deploy, and stage Federal resources to support the assessment and cleanup of the environment. (Supports EH-Critical Task-2)					
	EH-MO-7: Coordinate the collection and sharing of predictive modeling data, on-scene environmental, hazard, and risk assessments, and sampling and monitoring data. (Supports EH-Critical Task-1, EH-Critical Task-2)					
	EH-MO-8: Provide technical assistance to identify natural and cultural resources and historic properties and assess damage and risks to the resources, when requested (Supports EH-Critical Task-3)					

Core Capability	Mission Objective	P	H	A	S	E
		1a	2a	2b	2c	3a
	EH-MO-9: Advise on appropriate and assist with implementation of protective measures to minimize impacts to natural and cultural resources and historic properties from response operations, when requested. (Supports EH-Critical Task-3)					
	EH-MO-10: Coordinate planning, and information sharing among Federal and nongovernmental sector on natural and cultural resources and historic properties. (Support EH-Critical Task-3)					
Fire Management and Suppression (FS)	FS-Critical Task-1. Provide traditional first response or initial attack firefighting services based on the requirements of Federal, state and local authorities.					
	FS-Critical Task-2. Conduct expanded or extended attack firefighting and support operations through coordinated response of fire management and specialized fire suppression resources.					
	FS-Critical Task-3. Ensure the coordinated deployment of appropriate local, regional, national, and international fire management and fire suppression resources to reinforce firefighting efforts and maintain an appropriate level of protection for subsequent fires.					
Infrastructure Systems (IS)	IS-MO-1: Perform site surveys and assessments to inform resource requests, conduct analysis, and determine the prioritization of infrastructure restoration. (Supports IS-Critical Task-1)					
	IS-MO-2: Coordinate with public and private sector infrastructure owners, operators, and partners to prioritize restoration activities, based on the degradation to essential infrastructure and the resources required to repair infrastructure. (Supports IS-Critical Task-2)					
	IS-MO-3: Conduct planning in coordination with the public and private sectors to support incident objectives for stabilization and repair of essential infrastructure. (Supports IS-Critical Task-2)					
Mass Care (MC)	MC-MO-1: Support the integration and implementation of operational plans among public, private, and nongovernmental sectors to deliver mass care services. (Supports MC-Critical Task-1)					
	MC-MO-2: Coordinate, alert, and deploy Federal MC resources to support the staffing and equipping of general population shelters and other temporary housing options (including accessible housing) for the affected population. (Supports MC-Critical Task-2)					

Core Capability	Mission Objective	P	H	A	S	E
		1a	2a	2b	2c	3a
	MC-MO-3: Coordinate with public, private, and nongovernmental partners to gain and maintain shared situational awareness and identify resource and personnel requirements. (Supports MC-Critical Task-1)					
	MC-MO-4: Analyze, prioritize, and allocate Federal resources to support MC operations. (Supports MC-Critical Task-1)					
	MC-MO-5: Coordinate the provision of reunification services to reunite family members and caregivers with those missing as a result of the incident. (Supports MC-Critical Task-3)					
	MC-MO-6: Identify non-congregate housing alternatives and facilitate transition from congregate facilities, including the provision of relocation assistance or interim housing solutions for families unable to return to their pre-disaster homes. (Supports MC-Critical Task-2, MC-Critical Task-3)					
Mass Search and Rescue (MS)	MS-MO-1: Coordinate operational efforts with local, regional, national, and international SAR teams. (Supports MS-Critical Task-3)					
	MS-MO-2: Inventory existing personnel and conduct just-in-time training to provide a surge capacity for SAR operations. (Supports MS-Critical Task-1)					
	MS-MO-3: Identify, activate, and deploy Federal personnel and resources needed to support SAR operations. (Supports MS-Critical Task-1, MS-Critical Task-2)					
	MS-MO-4: Conduct community-based SAR operations, in close coordination with the affected jurisdictions, and in synchronization with personnel from local, regional, national, and international SAR teams. (Supports MS-Critical Task-1, MS-Critical Task-2, MS-Critical Task-3)					
On-scene Security, Protection, and Law Enforcement (OP)	OP-MO-1: Coordinate planning and operational analysis, and locate and inventory equipment to deliver On-scene Security, Protection, and Law Enforcement. (Supports OP-Critical Task-1)					
	OP-MO-2: Analyze, prioritize, and allocate Federal law enforcement resources to support local, state, tribal, territorial, and insular area jurisdictions. (Supports OP-Critical Task-2)					

Core Capability	Mission Objective	P	H	A	S	E
		1a	2a	2b	2c	3a
	OP-MO-3: Provide law enforcement functions, in support of local, state, tribal, territorial, and insular area jurisdictions, which may fall outside of traditional patrol and investigation duties. (Supports OP- Critical Task-1, OP-Critical Task-2)					
Operational Communications (OC)	OC-MO-1: Coordinate operational communications planning among whole community partners. (Supports OC-Critical Task-1)					
	OC-MO-2: Gain and maintain a shared situational awareness and understanding of the operating environment as it pertains to the communications infrastructure. (Supports OC-Critical Task-1)					
	OC-MO-3: Identify, alert, deploy, and adjudicate Federal communications resources to support responders at all levels and the affected population. (Supports OC-Critical Task-1, OC-Critical Task-2)					
	OC-MO-4: Integrate Federal response equipment with jurisdictional communications systems to facilitate interoperable communications between responders at all levels and the affected population. (Supports OC-Critical Task-1)					
	OC-MO-5: Reestablish sufficient communications within the affected area. (Supports OC-Critical Task-2)					
Logistics and Supply Chain Management (PS) (Operational Support)	PS-MO-1: Coordinate planning and operational analysis among governmental, nongovernmental, and private sector services and other mission areas. (Supports PS-Critical Task-2)					
	PS-MO-2: Analyze, prioritize, adjudicate, allocate, and mobilize public and private resources to support local, state, tribal, territorial, and insular area jurisdictions, and the transition to long-term recovery. (Supports PS-Critical Task-1)					
	PS-MO-3: Coordinate and implement international assistance resources and capabilities. (Supports PS-Critical Task-1)					
Public Health, Healthcare, and Emergency Medical Services (HM)	HM-MO-1: Coordinate planning and operational analysis among governmental, nongovernmental, and private sector services and other mission areas to prepare for the delivery of medical care and countermeasures. (Supports HM-Critical Task-1)					
	HM-MO-2: Analyze, prioritize, adjudicate, allocate, and deliver public health, behavioral health, and medical resources to support local, state, tribal, territorial, and insular area jurisdictions. (Supports HM-Critical Task-1)					

Core Capability	Mission Objective	P	H	A	S	E
		1a	2a	2b	2c	3a
	HM-MO-3: Coordinate with the affected jurisdiction(s) to provide medical care and countermeasures. (Supports HM-Critical Task-1, HM-Critical Task-2)					
	HM-MO-4: Reduce medical surge support and return resources to pre-incident levels. (Supports HM-Critical Task-3)					
Situational Assessment (SA)	SA-MO-1: Coordinate existing planning and operational analysis processes across public, private, and nongovernmental sectors to facilitate the timely analysis of situational information. (Supports SA-Critical Task-1)					
	SA-MO-2: Collect, distill, and analyze incoming information from all available sources within and outside of the affected area. (Supports SA-Critical Task-1, SA-Critical Task-2)					
	SA-MO-3: Develop, validate, and make available decision-relevant information to facilitate situational understanding across public, private, and nongovernmental sectors. (Supports SA-Critical Task-1, SA-Critical Task-2)					
	SA-MO-4: Enhance preliminary situational assessments with more comprehensive information collection, validation, and analysis processes to inform decision making. (Supports SA-Critical Task-2)					

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Annex D: Logistics and Supply Chain Management (Operational Support)

Purpose

The purpose of this annex is to describe support to response operations through the delivery of the Logistics and Supply Chain Management core capability.

The Logistics and Supply Chain Management core capability provides essential services and resources to the affected population and surrounding communities, to include emergency power to critical facilities, fuel support for emergency responders, and access to community staples (e.g., grocery stores, pharmacies, banks) and fire and other first response services.

The Logistics and Supply Chain Management (PS) critical tasks are as follows:

- **PS-Critical Task-1.** Mobilize and deliver governmental, nongovernmental, and private sector resources within and outside of the affected area to save lives, sustain lives, meet basic human needs, stabilize the incident, and transition to recovery, to include moving and delivering resources and services to meet the needs of disaster survivors.
- **PS-Critical Task-2.** Enhance public and private resource and services support for an affected area.

Logistics and Supply Chain Management provides the logistical, or operational support, to achieve the response priorities established by leadership in the Operational Coordination core capability by identifying, prioritizing, and coordinating how lifesaving resources are coordinated to prepare for or meet response resource requirements across the whole community. The Critical Transportation core capability is integrated into this annex as an appendix to facilitate the alignment of transportation objectives and capabilities with the prioritization of the delivery of resources into the affected areas to stabilize the incident and transition to recovery operations.

Situation

When a disaster occurs, Logistics and Supply Chain Management are needed to effectively deliver the core capabilities. Disaster responders will require field support, and their response operations across all core capabilities are dependent upon the availability, accessibility, and distribution of public and private resources. Response operations are stabilized when resources to support operations are available within 72 hours of onset of the incident.

Assumption

General assumptions for the Response Federal Interagency Operational Plan (FIOP) have been identified in the base plan.

Mission

Federal interagency partners will mobilize and deliver governmental, nongovernmental, and private sector resources within and outside of the affected area to save and sustain lives, and facilitate a seamless transition to recovery.

Execution

Concept of Support

During a Stafford Act response, or when requested through Federal-to-Federal support, the Federal Emergency Management Agency (FEMA) is responsible for the coordination of required operational support. Emergency Support Function (ESF) #7 implements an effective interagency end-to-end supply chain system, known as the National Logistics System (NLS), for an all-hazards response.

The NLS maintains management services and resources support capability with the flexibility, adaptability, and agility to implement and sustain a dynamic operational tempo consisting of other Federal departments and agencies, nongovernmental organizations (NGO), National Voluntary Organizations Active in Disaster (National VOAD), and private sector partners.

Supply chain management focuses on integrating the end-to-end supply chain processes, beginning with planning of customer-driven requirements for resources and services and ending with delivery to customers. Figure D-1 depicts the overlay between the general response phases of incident support and a basic six-step supply chain approach.

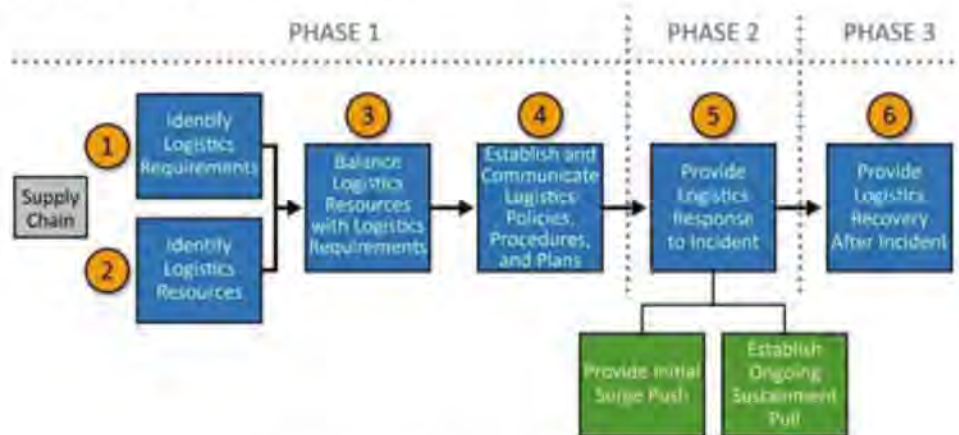


Figure D-1: Supply Chain Approach

Phase 1

Federal watch/operations centers maintain steady state operations. FEMA, the General Services Administration (GSA), the Department of Health and Human Services (HHS), the Department of Defense (DoD), and other Federal departments and agencies participate in planning working groups to identify and validate resource capabilities and requirements, test planning effectiveness, perform enhancements, as required, and leverage resources to remediate shortfalls. Commercial contracts and NGO agreements are established to augment the capabilities of the Federal Government. The supply chain approach also illustrates steps for balancing logistics resources with requirements and establishing and communicating logistics policies, plans, and procedures.

FEMA distribution centers (DC), as displayed in Figure D-2, are used to store resources including pre-configured initial response resources.

Incident Support Bases (ISB) are identified, in coordination with the FEMA Headquarters, regions, and the Incident Management Assistance Team (IMAT), during planning activities to expedite the response and for the purposes of pre-positioning resources. ISBs are a designated Federal site where uncommitted resources are temporarily received, pre-staged, and maintained until a requirement has been identified through the Unified Coordination Group (UCG). For notice incidents, ISBs may be

stood up during this phase. Pre-staged resources at an ISB expedite the immediate delivery of resources once they are requested, and the ISBs typically store the following resources: water, emergency meals, cots, blankets, tarps, plastic sheeting, generators, and other resources, as required.



Figure D-2: FEMA Distribution Centers

Phase 2

FEMA Headquarters and regions deploy logistics teams to disaster locations to establish FEMA's initial on-site resource response capability at either ISBs or staging areas. The teams provide both personnel and resources necessary to establish field activities. The Regional Response Coordination Center (RRCC)/Initial Operating Facilities (IOF) may establish a staging area for pre-staged requested resources or assume initial operations of the ISB. For no-notice incidents, an ISB is coordinated with the Region/IMAT/Joint Field Office (JFO) or is stood up at the direction of the FEMA Administrator. In either a catastrophic or multi-state incident, or when deemed appropriate by the FEMA Administrator, the ISB may remain an enduring site to support either the staging areas, points of distribution (POD), or community distribution points (CDP) throughout response operations.

The deployment and delivery of resources is executed using a push-pull strategy. FEMA will either push pre-staged uncommitted resources from provider locations to ISBs or push pre-staged, pre-planned committed resources to pre-designated staging areas based on an analysis of the situation and projected resource needs. Once staging areas or ISBs are established and the JFOs are functional, distribution management may revert to a pull strategy for resource sustainment that coordinates the regional request for commodities prior to sending resources. The Resources Support Section (RSS) in the National Response Coordination Center (NRCC) and the Region will jointly determine when to change from the push to the pull approach.

ISBs are located as close to an impacted area as the incident will allow. ISBs may receive resources from various FEMA DCs, commercial vendors, other Federal departments and agencies, NGOs, and even other ISBs. ISBs establish a two-day supply for resource requirements. Resource requirements are established at the RRCC or the UCG in coordination with local, state, tribal, territorial, and/or insular area counterparts based on projections or reports of the impacted percentage of the population and the capacity to distribute to the public.

If a region or JFO has a requirement for ISB commodities, one of two things can occur:

- If an ISB serves a single region or JFO and a validated state requirement has been received, commodities are identified and dedicated to fill that requirement. The region, UCG, Logistics Section Chief, or Ordering Unit Leader can request disaster commodities and support directly from the servicing ISB. This is considered single point ordering.
- If an ISB services multiple regions or JFOs, and state requirements have been received, standard commodity requisition procedure applies. If there are competing requests for scarce commodities, adjudication will be made by FEMA Headquarters.

Initial Response Packages are comprised of the following commodities, which includes commonly used shelter items:

- Meals
- Water
- Cots
- Blankets
- Infant and toddler kit
- Durable medical equipment kit
- Consumable medical supplies kit
- Generators
- Mobile Communications Office Vehicle from FEMA's Disaster Emergency Communications (DEC) Division.

The team and resource cache is found in Tab 1 to Appendix 1 of this annex.

The Federal Government encourages cooperative relations between private sector organizations and local, state, tribal, territorial, and insular area authorities regarding response activities. The Federal Government encourages extensive two-way and multidirectional sharing between the public and private sectors for operational information and shared situational awareness relative to potential or actual incidents. The Federal Government may direct private sector response resources where pertinent contractual relationships exist and also retains its full authorities to oversee and control, as appropriate, infrastructure involved in an incident.

Federal departments and agencies prepare, coordinate, adjudicate, and deploy national-level resources in support of local, state, tribal, territorial, and insular areas government efforts to save and sustain lives, protect property, and mitigate environmental impacts in response to a catastrophic incident.

The following considerations will be used when providing resources for survivor requirements when appropriate:

- Determine which specific national-level and Logistics and Supply Chain Management capabilities are currently available.
- Determine which national-level resources will be maintained in reserve for deployment to future incidents.
- Identify the considerations for deployment of specific national-level and Logistics and Supply Chain Management capabilities based on FEMA Region(s) and by state(s) survivor requirements.

- Calculate requirements based upon the impacted survivor population.
- Evaluate the local, regional, state, tribal, territorial, and insular area capabilities (inclusive of the public/private sector) that are affected or degraded.
- Allocate available national-level and Logistics and Supply Chain Management capabilities to each impacted region based on percentage of total impacts.
- Allocate available national-level and Logistics and Supply Chain Management capabilities to each impacted region based upon adjudication of limited resources.

Table D-1 highlights the major factors that ESFs should consider for coordinating the allocation of Federal national-level resources.

Table D-1: Major Considerations for Allocation of Federal National-level Resources

ESF	Major Considerations
All ESFs	<ul style="list-style-type: none"> ▪ Number of states affected. ▪ Population impacted.
ESF #1—Transportation	<ul style="list-style-type: none"> ▪ Major highways/bridges/airports/ports damaged/closed to traffic. ▪ Estimated time to repair/restore transportation critical infrastructure. ▪ Ability of the private sector to respond to damaged transportation infrastructure.
ESF #2—Communications	<ul style="list-style-type: none"> ▪ Location of IOFs and JFOs. ▪ Location of IMAT. ▪ Location of deployed teams. ▪ Status of local, state, tribal, territorial, and insular area government communications critical infrastructure. ▪ Extent of damages to private sector communications critical infrastructure.
ESF #3—Public Works and Engineering	<ul style="list-style-type: none"> ▪ Major transportation routes with non-functioning equipment. ▪ Major transportation routes blocked by debris. ▪ Status of water/wastewater infrastructure. ▪ Status of power grid/critical facilities and estimated time until restored. ▪ Status of navigation infrastructure. ▪ Number of buildings damaged, flooded, or destroyed. ▪ Number of dams/levees damaged or destroyed. ▪ Estimated number of collapsed buildings by type.
ESF #4—Firefighting	<ul style="list-style-type: none"> ▪ Number of local fire stations without power, damaged, flooded, or destroyed. ▪ Number of structural and wildland fires. ▪ Number of buildings damaged, flooded, or destroyed. ▪ Locations of area-wide quantities of combustible debris, including building debris and fallen trees.
ESF #5—Information and Planning	<ul style="list-style-type: none"> ▪ Location of Federal Coordinating Officer (FCO), IOFs, and JFOs. ▪ Environmental response, health and safety, and occupational safety concerns.

ESF	Major Considerations
ESF #6—Mass Care, Emergency Assistance, Temporary Housing, and Human Services	<ul style="list-style-type: none"> ▪ Shelter-seeking population and their household pets/service and assistance animals. ▪ Population requiring lifesaving/sustaining support to include food and emergency supplies. ▪ Number of buildings damaged, flooded, destroyed, or without power. ▪ Number of water/wastewater facilities damaged, destroyed, or without power. ▪ Number of customers without power.
ESF #7—Logistics	<ul style="list-style-type: none"> ▪ Shelter-seeking population and their household pets/service and assistance animals. ▪ Number of responders requiring shelter support. ▪ Population requiring some level of support. ▪ Number of customers without power. ▪ Number of water/wastewater facilities damaged, destroyed, or without power. ▪ Critical infrastructure requirements.
ESF #8—Public Health and Medical Services	<ul style="list-style-type: none"> ▪ Number of critically injured that need medical care. ▪ Number of injured that need medical care. ▪ Number of fatalities. ▪ Number of healthcare facilities impacted or damaged and number of healthcare facilities that need generator or other power assistance. ▪ Number of patients who require medical evacuation. ▪ Number of survivors who require medical oxygen or medical oxygen generation capabilities. ▪ Number of potentially exposed individuals who may require prophylaxis.
ESF #9—Search and Rescue	<ul style="list-style-type: none"> ▪ Number of and type of buildings damaged, destroyed, or without power.
ESF #10—Oil and Hazardous Materials Response	<ul style="list-style-type: none"> ▪ Number of hazardous materials leaks, spills, or releases or threatened releases from facilities, vessels, pipelines, and other sources. ▪ Extent of hazardous materials facilities damaged, destroyed, or without power. ▪ Nature and extent of actual or potential environmental contamination and its impacts.
ESF #11—Agriculture and Natural Resources	<ul style="list-style-type: none"> ▪ Impact to agriculture and natural resources. ▪ Availability of nutritional resources. ▪ Status to provide food to survivors.

ESF	Major Considerations
ESF #12—Energy	<ul style="list-style-type: none"> ▪ Number of petroleum/natural gas pipelines damaged/destroyed. ▪ Status of energy needs to meet public and private sector requirements. ▪ Number of customers without power. ▪ Status of release of fuel from fuel reserves to meet survivor requirements (e.g., for cars, home heating). ▪ Outages in impacted area/utility service territory and estimated time until restored. ▪ Status of petroleum/natural gas system. ▪ Status of ports/platforms. ▪ Crude oil, refined products, and natural gas production/shutdown status. ▪ Energy import/export impacts. ▪ Energy shortages outside impacted region.
ESF #13—Public Safety and Security	<ul style="list-style-type: none"> ▪ Number of facilities/areas/roadways requiring security. ▪ Transport and ISBs/staging areas security. ▪ Major highways/bridges/airports/ports damaged/closed to traffic. ▪ Estimated time to repair/restore transportation critical infrastructure. ▪ Status of local, state, tribal, territorial, and insular area law enforcement critical infrastructure. ▪ Number of injured/fatalities.
ESF #15—External Affairs	<ul style="list-style-type: none"> ▪ Location of FCOs, IOFs, and JFOs. ▪ Number of buildings damaged/destroyed or without power, people injured, and numbers of fatalities. ▪ Shelter, POD, CDP locations. ▪ Status of public communications systems (e.g., television, radio, Internet).

The Federal Government supports measures that ensure site accessibility for essential service providers responding to disasters or emergencies, including telecommunications services, electrical power, natural gas, water and sewer services, or any other essential service, as determined by the President.

Phase 3a

When response operations are complete, commodities are returned or disposed of in accordance with disposition instructions from FEMA Logistics.

FEMA Logistics Management Directorate (LMD) acts as the clearinghouse for resource returns, regardless of whether the resource is residual or defective, or equipment which requires refurbishment. The FEMA regions request disposition instructions for residual or defective items before returning them through FEMA's inventory management system or initiating disposal or donation. FEMA/LMD may authorize a disposal initiated by the region or that the direct uncommitted residual ISB/staging area items be returned to a distribution center.

During recovery operations, the Federal Government's role in supply chain management for response operations will transition to a responsibility picked up by local, state, tribal, territorial, and insular area jurisdictions. Operational support progresses in the capacity of providing temporary housing as the hand-off to recovery. Coordination for continuing support operations will transition from the ESF to the Recovery Support Functions (RSF).

Coordinating Structures

Many ESFs support the Logistics and Supply Chain Management core capability. The ESFs that perform tasks under this core capability are summarized in Figure D-3. Specific tasks conducted by these ESFs are identified in the Tasks by Phase, by ESF section below.

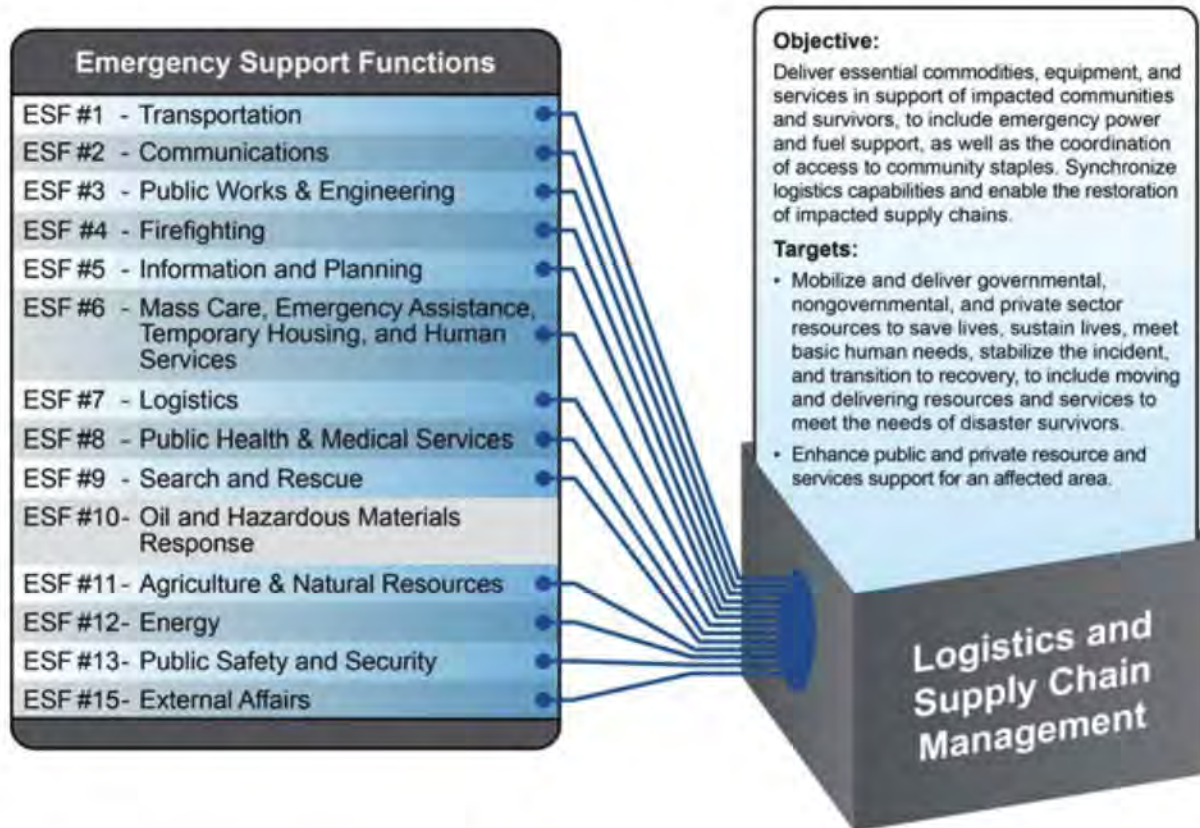


Figure D-3: Coordination of ESF Support to Logistics and Supply Chain Management

National Level

The FEMA Assistant Administrator for Logistics, or a designated representative, serves as the “Single Integrator” or National Logistics Coordinator (NLC). The NLC leverages all partners of the Logistics whole community, including NGOs, faith-based organizations, and the National VOAD, into a single synchronized effort during response and short-term recovery. The NLC and ESF #7 accomplish this through the NLS by anticipating, prioritizing, and executing timely and effective readiness, preparedness, response, and short-term recovery actions following an incident. The NLC activates the NLS to fulfill time-phased requirements by the required delivery dates.

The Resource Management Group (RMG) is an operational, interagency body that is assembled upon activation as part of the National Response Coordination Staff when existing resource support mechanisms need augmentation. All or specially designated NLS partners may be invited to meetings, and they may be called upon to provide resource status, readiness, and availability updates for implementation actions (e.g., transport).

The RMG utilizes disaster requirements to recommend an appropriate sourcing plan for the requested commodities. The RMG considers all available factors affecting the sourcing recommendation, such

as location, quantity, and cost, in identifying the best resources from which to source the requirement. The RMG provides initial and sustainment resources to meet the requirements of the impacted region(s) using the ESF #7 Supply Chain Resource Concept sourcing capability.

The Defense Logistics Agency (DLA) is an active partner of FEMA that may provide emergency meals and fuel to first responders per an existing interagency agreement (IAA). FEMA may request support of the DoD to assist in the augmentation of logistics support sites or operational capabilities.

FEMA coordinates Federal response and recovery operations in close coordination with local, state, tribal, territorial, and insular area governments, NGOs, SSAs, and the private sector. National VOAD will provide guidance in the management of unaffiliated volunteers and unsolicited donated goods, along with other donations management issues, as outlined within the support annexes of the National Response Framework (NRF). During disaster activation, the Department of Homeland Security (DHS) Private Sector Office coordinates with the National Operations Center (NOC) to provide private sector information for situational awareness briefings presented to the Secretary of Homeland Security. The National Business Emergency Operations Center (EOC) integrates into NRCC operations to coordinate with the private sector to identify resource needs and potential private sector donations to fulfill these needs.

The National Infrastructure Coordinating Center (NICC) currently works with 16 critical infrastructure sectors and serves as the coordinating mechanism for critical infrastructure and the private sector. Sources of information concerning private sector logistics and chains of supply include the National Business EOC, the Small Business Administration, and Chambers of Commerce.

Immediately following an incident, actions are initiated to facilitate coordination with relevant private sector entities. Private sector businesses and organizations report threats and incidents to the NOC using existing jurisdictional incident reporting channels. The NOC will evaluate this information and will then make an initial determination to initiate the coordination of Federal response activities.

The DHS Private Sector Office representatives act as a liaison to communicate at a strategic level with private sector and DHS leadership to facilitate communication and maintain awareness of public sector issues and needs as a complement to awareness being achieved by the NRCC and the NICC. The NRCC receives information through the existing partnership with ESFs and uses this information, as applicable, to inform the private industry on response and recovery efforts as it relates to impacted areas. Together, these entities also coordinate directly with the private sector, internal DHS partners, and other Federal departments or agencies to assess the economic impact of an incident.

The DHS Office of Public Affairs works in conjunction with the NOC to provide timely public information to the private sector during national-level incidents that require a coordinated Federal response. The ESFs implement established protocols for coordination with private sector counterparts at the national and regional levels. To facilitate private sector coordination, DHS assigns representatives to various regional and national-level response coordination centers.

DHS coordinates with local, state, tribal, territorial, and insular area officials to utilize non-traditional resources (e.g., U.S. Postal Service, community groups) to distribute messaging and resources to

Non-congregate and rural survivors, as required. Requested services or resources may be provided by the Federal Government or coordinated by the RSS-RMG using atypical solutions to meet requested requirements.

FEMA/Logistics Transportation, in coordination with ESF #1, requests permits (e.g., weight, movement times) for the transportation of resources into the impacted areas. ESF #1 and the Department of Transportation (DOT) are not responsible for the movement of goods, equipment, animals, or people, but they do help identify alternative transportation solutions that can be implemented when traditional infrastructure is unavailable. ESF #7 and other interagency partners identify the need for security support to protect and secure resources during movement, storage, and distribution and coordinates with ESF #13 for needed support.

The FEMA Transportation and Management Coordination Group (TMCG) will coordinate the transportation requirements processes and execute movement of resources from storage facilities, partners, and vendors to ISBs, staging areas, and as required to PODs/CDP, shelters, and survivors. Services provided include multi-modal transportation, fuel ordering, and various fleet maintenance and tracking management tools. Transportation management also includes providing services in response to requests from other Federal organizations.

To meet required delivery dates, the TMCG will rely on the GSA Tenders Program as the primary source of acquiring transportation during all disaster phases. Maintaining flexibility and responsiveness may require the TMCG to reach out to other Federal partners for additional support through the mission assignment process or acquire transportation support via FEMA acquisition channels. The TMCG's strategy is to source the mode of transportation, pickup at an intermediate site, then deliver by the required delivery date.

FEMA Private Sector Division, facilitates the improvement of information sharing and coordination between FEMA and the private sector during disaster response efforts. FEMA Private Sector Division cultivates public-private collaboration and networking in support of the various roles the private sector plays in emergency management, including impacted organization, response resource, partner in preparedness, and component of the economy. The FEMA Private Sector Division also fosters internal collaboration and communication among FEMA programs that have an interest in private sector engagement during response activities.

The NLC will determine whether the requested services or resources will be provided by the Federal Government or coordinated by the RSS-RMG. Items that are readily available from outside organizations, in the timeframe and quantity required, will be considered prime candidates for outsourcing. Figure D-4 demonstrates the supply chain concept for sourcing of requirements. The source of supply could be other Federal agencies, NGOs, or the private sector. FEMA/LMD reallocates resources among DCs based on stockage and requirements.

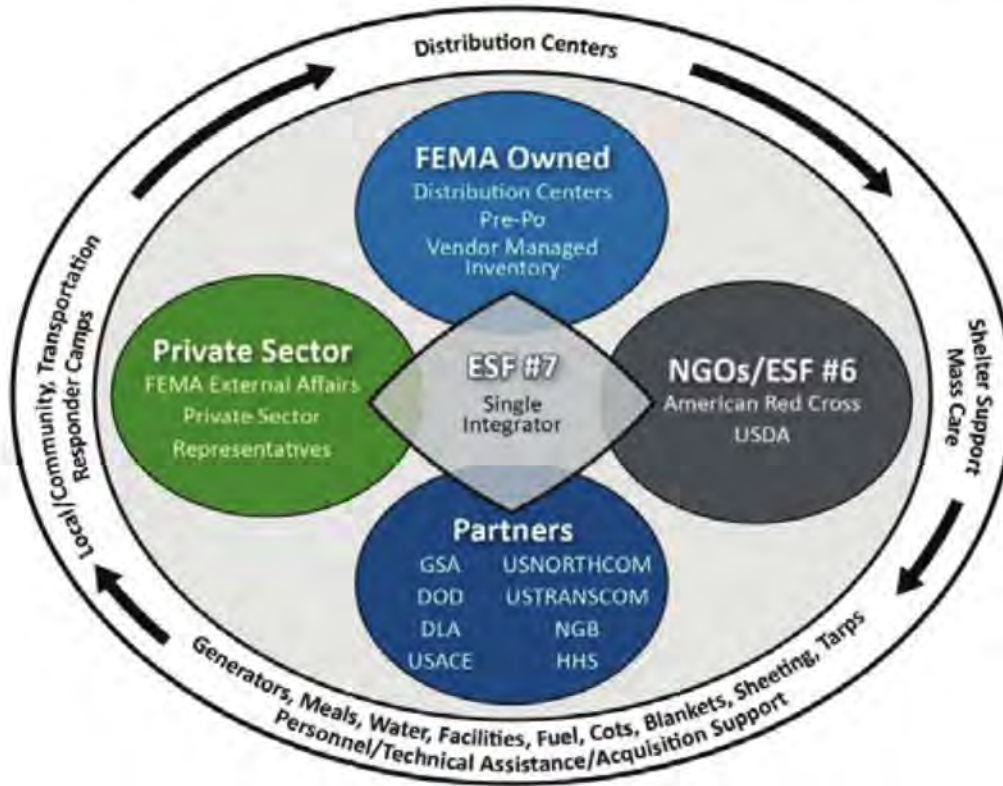


Figure D-4: ESF #7 Logistics Sourcing Concept

FEMA, GSA, DLA, the U.S. Department of Agriculture (USDA), and the U.S. Army Corps of Engineers (USACE) will be responsible for sourcing essential resources. FEMA will employ both strategic sourcing for supplies and services procured nationally to economies of scale. Local Business Transition Teams will provide economic stability to the affected region or local area and achieve shorter delivery times. For commodities that FEMA determines will not be sourced nationally, FEMA field activities will be authorized to procure locally while implementing Local Business Transition Teams.

Regional Level

FEMA regions are integrated decision makers for all logistics functions prior to, during, and following an incident. Regional personnel staff JFOs and ISBs/staging areas and identify, develop, and coordinate distribution of regional resource requirements and capabilities with local, state, tribal, territorial, and insular area responders.

The RRCC or the UCG establishes resource requirements in coordination with local, state, tribal, territorial, and insular area counterparts based on steady state planning and projected reports of the impacted percentage of population and the capacity to distribute commodities.

Resource and service requests will be processed through the RSS in the NRCC using the following information as guidelines:

- Number of survivors
- Resource, service, type of support required
- Number of days of support required

- Required delivery date or date support is required (start date)
- Location (staging area)
- Special requirements/concerns/instructions
- Coordination required with point of contact information.

Local, State, Tribal, Territorial, and Insular Areas

Local, state, tribal, territorial, and insular area areas affected are responsible for initial disaster response. The individual entities are responsible for operating PODs or CDPs for the distribution of disaster supplies to survivors. They also provide some integrated staffing to JFOs. When resources are exhausted at the local, state, tribal, territorial, or insular area levels, Federal Government requests for services and resources may be made.

The lead FEMA element for coordinating local, state, tribal, territorial, and insular area requirements will be within the operations section of the UCG.

Incident Level

National teams will staff the ISB. If an ISB becomes a staging area, the RRCC, IMAT, or UCG may request the National ISB remain in place or regional teams can take over. Each team is staffed, trained, and ready to deploy. The DLA can augment FEMA if FEMA's capability is overwhelmed. FEMA may request support of the DoD to assist in ISB logistics support operations.

International Level

The Department of State, U.S. Agency for International Development (USAID)/Office of Foreign Disaster Assistance (OFDA), and FEMA utilize the International Assistance System to identify and manage incoming international donations and volunteers as outlined in the support annexes of the NRF.

ESFs that provide support to the delivery of Logistics and Supply Chain Management core capability are included in the following section.

Logistics and Supply Chain Management (Operational Support) Tasks

Mission Objectives (MO)

- PS-MO-1: Coordinate planning and operational analysis among governmental, nongovernmental, and private sector services and other mission areas. (Supports PS-Critical Task-2)
- PS-MO-2: Analyze, prioritize, adjudicate, allocate, and mobilize public and private resources to support local, state, tribal, territorial, and insular area jurisdictions and the transition to long-term recovery. (Supports PS-Critical Task-1)
- PS-MO-3: Coordinate and implement international assistance resources and capabilities. (Supports PS-Critical Task-1)

Phase 1a—Normal Operations

End State: Plans, checklists, IAAs, and contracts have been reviewed and revised as necessary; private sector partners have been integrated into teleconferences and planning meetings. (Supports PS-MO-1)

- Tasks by Phase, by ESF
 - All
 - ♦ Coordinate between Federal departments and agencies to strengthen relationships and identify and mitigate service and resource shortfalls.
 - ♦ Develop and review pre-scripted mission assignments (PSMA), memoranda of understanding (MOU), and IAAs.
 - ESF #2
 - ♦ Identify potential local, state, tribal, territorial, insular area, and Federal emergency communications requirements.
 - ESF #3
 - ♦ Establish advance contracts for the provision of private/public services support.
 - ESF #5
 - ♦ Plan and identify the linkages required between the NRCC and the RRCC with the private sector-operated EOC or state EOCs.
 - ♦ Conduct detailed resource analysis with local, state, tribal, territorial, and insular area partners to ascertain expected Federal support resources.
 - ♦ Set plans and checklists according to the FEMA Administrator's priorities and review internally and with partners.
 - ESF #7
 - ♦ Review all associated plans and coordinate with regions and partners.
 - ♦ Coordinate with the regions to maintain or conduct detailed requirements analysis with local, state, tribal, territorial, and insular area partners to ascertain expected Federal support services and resources to mitigate limiting factors or shortfalls.
 - ♦ Review the readiness and deployment posture of personnel, services, resources, contracts, and logistics support systems.
 - ♦ Review PSMAs, license and use agreements, IAAs, and contracts.
 - ♦ Coordinate and plan to mobilize and deliver governmental, nongovernmental, and private sector resources within and outside of the affected area.
 - ♦ Review and prepare additional pre-disaster agreements and contracts to ensure the greatest capability/flexibility to provide sufficient resources to survivors and responders during an incident.
 - ♦ Identify inventory of equipment and resources needed to support response.
 - ♦ Maintain backup generators.
 - ♦ Order, maintain, and verify inventory levels of personal protective equipment (PPE) and other fatality management mission essential materials and supplies for response, recovery, and mitigation efforts.
 - ♦ Prepare advanced readiness contracting.

- Conduct Logistics and Supply Chain Management core capability working group meetings to coordinate requirements, implement after action report (AAR) lessons learned and best practices, and coordinate disability-related assistance/functional needs support services, durable medical equipment, and consumable medical supplies.
- Coordinate with regions to validate the locations of regional staging areas, state staging areas, and PODs, including trigger points.
- ESF #15
 - Prepare to activate the Private Sector Incident Communications Conference Line (PICCL).

Phase 1b—Elevated Threat

End State: Select resources have been pre-positioned, and updates on commodities, facility status, personnel, and other FEMA and partner assets have been provided to deliver shared situational awareness. (Supports PS-MO-1)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 1c—Credible Threat

End State: Assets have been positioned, as appropriate, through coordination with local, state, tribal, territorial, and insular area jurisdictions; the private sector; and other stakeholders. Situational awareness has been attained to effectively coordinate the delivery of equipment, supplies, and services. (Supports PS-MO-1)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 2a—Immediate Response

End State: Information has been analyzed regarding the operational environment to gauge preliminary planning and response needs. (Supports PS-MO-1)

- Tasks by Phase, by ESF
 - ESF #1
 - Coordinate with owners/operators of variable messaging signs (local and state Departments of Transportation).
 - ESF #3
 - Execute emergency contracting support for lifesaving and life-sustaining services, to include providing emergency power, and other emergency commodities and services.
 - ESF #5
 - Coordinate with ESF #15; local, state, tribal, territorial, and insular area jurisdictions; and volunteers to disseminate messaging requesting the donation of emergency supplies.

- ♦ Integrate resources from GSA; USACE; DLA; other local, state, tribal, territorial, insular area, and Federal jurisdictions; and private sector providers to allow for coordinated operations and to meet operational requirements.
- ♦ Coordinate with ESF #13 to provide security requirements.
- ♦ Activate ESF #7 at the national and regional level to provide coordination and technical assistance.
- ♦ Coordinate with ESF #15 to provide the locations of resources to the public.
- ♦ Initiate FEMA's National Ambulance Contract for ground transportation.
- ♦ Coordinate with NRCC to initiate necessary notifications/activations:
 - Ensure surge account is funded
 - Activate PSMA, memoranda of agreement (MOA), and other support documentation for select ESFs
 - Initiate coordination and support efforts with relevant NGO and private sector partners.
- ESF #6
 - ♦ Provide hydration, food, cots, blankets, and other resources and services to the impacted population(s), leveraging ESF #7 and other capabilities.
 - ♦ Stage, sort, and distribute donated items to the affected population.
 - ♦ Analyze projected population impacts to determine hydration, feeding, and sheltering requirements in the forecasted impact areas.
- ESF #7
 - ♦ Develop shared situational awareness through coordination with local, state, tribal, territorial, and insular area jurisdictions, the private sector, and other stakeholders to identify additional resource shortfalls.
 - ♦ Initiate national IAAs with other Federal agencies/NGOs, MOAs/MOUs, and logistics contracts.
 - ♦ Leverage pre-existing IAAs with GSA and DLA and pre-existing contracts with the private sector resource providers.
 - ♦ Coordinate with all response partners to establish supply chain management and the effective movement of resources.
 - ♦ Procure additional resources to meet requirements and mitigate shortfalls.
 - ♦ Manage tracking of resource movement to and from ISBs to staging areas and other locations.
 - ♦ Deliver information technology services to support resource movement, tracking, and coordination (logistics supply chain management system and geospatial).
 - ♦ Coordinate the delivery of equipment, supplies, and other services to ISBs, staging areas, PODs, and CDPs.

- ♦ Determine requirements for supply of fuel, power generation, and sanitation services to support ISBs, staging areas, and deployed resources.
- ♦ Maintain coordinated and synchronized supply chain management monitoring with all response partners including security aspects to determine current resource inventories.
- ♦ Coordinate the distribution of infant and toddler kits, durable medical equipment kits, and consumable medical supplies kits.
- ♦ Manage and coordinate RSCs for deployed responders.
- ♦ Activate the RMG, as required.
- ♦ Implement the Defense Production Act with interagency partners, as required.
- ♦ Coordinate with other Federal agencies for the activation of individual authorities, statutes, or the implementation of waivers.
- ♦ Adapt existing plans for logistical support to responders and survivors; promulgate Incident Action Plans for each operational period.
- ♦ Inventory and report to the NRCC on the availability and functional status of all services and resources.
- ♦ Identify Federal emergency assets and capabilities available for deployment.
- ♦ Conduct national-level operational planning with respective region(s) to develop unified Federal response plans.
- ♦ Begin to establish coordination and resource planning with other Federal agencies at both the national and regional levels.
- ♦ Coordinate with the FEMA/Private Sector Office regarding public information and outreach with national private sector stakeholders, associations, academia, and NGOs.
- ♦ Provide goods and services to support evacuation efforts and transportation services and coordinate logistical support for medical teams to support field operations.
- ♦ Coordinate all air, ground, and maritime movement of Federal resources.
- ♦ Activate support from other interagency partners such as DoD airlift/sealift, DLA commodities and fuel, and USACE resources, as required.
- ♦ Initiate/Conduct daily logistics coordination conference calls with the affected region(s) and interagency partners:
 - Confirm execution schedule timeline with affected region(s), including trigger points
 - Identify and mitigate limiting factors and shortfalls
 - Discuss expected resource movements with the DoD Liaison Officer, GSA, and the TMCG/Movement Coordination Center (MCC).
- ♦ Identify Disaster Workforce employee requirements based on staffing and FEMA Qualification System (FQS) needs.
- ♦ Coordinate with FEMA Region/Defense Coordinating Officer (DCO), NRCC, USNORTHCOM and OSD representatives to validate ISB or staging area as appropriate.
- ♦ Conduct future planning with NRCC Planning Support Section.

- ♦ Coordinate with ESF #13 concerning transportation and site security requirements.
- ♦ Coordinate with FEMA/Office of Response and Recovery concerning Federal evacuation support actions, as required.
- ♦ Modify and execute all PSMA's into mission assignments with NRCC Mission Assignment Coordinator.
- ♦ Alert the DLA of potential support requirements.
- ♦ Alert GSA to be prepared to procure needed items as well as support transportation requests.
- ♦ Coordinate to deploy logistical staging vehicles with Logistics Operations.
- ♦ Identify reservists for possible deployment to a staging area.
- ♦ Discuss expected cargo movements with DoD DCO/DCE and Liaison Officer, GSA, and the MCC.
- ♦ Confirm that JFO kits and Disaster Information Systems Clearinghouse packs are ready for deployment by Mobile Emergency Response Support (MERS).
- ♦ Activate and prepare Accountable Property Officer and logistics supply chain management system kits for deployment.
- ♦ Coordinate blanket purchase agreements and contract(s) for immediate implementation with Office of Chief Procurement Officer for support requirements.
- ♦ Convene the Distribution Management Strategy Working Group/RMG to apprise all partners current resource levels, convey actions required, list known shortfalls, and identify action items and points of contact.
- ESF #8
 - ♦ Notify DCs to prepare for shipment of fatality management resources to the impacted area.
- ESF #9
 - ♦ Notify, activate, and/or deploy urban search and rescue (US&R) teams and deploy US&R caches through secure transportation.
- ESF #11
 - ♦ Provide technical assistance and coordination with state agencies on potential needs for USDA Foods and possible D-SNAP.
 - ♦ Support ESF #6 to coordinate an integrated Federal response to meet the mass care and emergency assistance needs of animals, including household pets, service and assistance animals, and their owners.
 - ♦ Coordinate with local, state, tribal, territorial, insular area, and Federal response to an outbreak of a highly contagious or economically devastating animal or plant pest, or disease.
- ESF #13
 - ♦ Activate Federal law enforcement resources for deployment to and employment in the affected area(s).

- ESF #15
 - ♦ Activate the PICCL and hold coordination calls, if not already activated.
 - ♦ Coordinate messages regarding local, state, tribal, territorial, insular area, and Federal governments and establish the National Joint Information Center.
 - ♦ Staff and activate the Private Sector desk in NRCC.

Phase 2b—Deployment

End State: Governmental, nongovernmental, and private sector resources have been mobilized to support immediate lifesaving and life-sustaining needs, and stabilize the incident. (Supports PS-MO-2)

- Tasks by Phase, by ESF
 - ESF #1
 - ♦ Coordinate and support response and recovery activities among transportation stakeholders.
 - ESF #2
 - ♦ Coordinate Federal actions to assist the public and private industry in restoring the critical communication infrastructure facilitating the dissemination of instructions relative to the delivery of information to the public.
 - ESF #3
 - ♦ Coordinate with RRCC/JFO for potential, local, state, tribal, territorial, and insular area requests for debris removal missions.
 - ESF #5
 - ♦ Coordinate and conduct planning and response activities with local, state, tribal, territorial, and insular area, and Federal governments along with public and private sector partners.
 - ♦ Determine the need (or lack of need) for emergency supplies, resources, and services.
 - ♦ Evaluate consolidation of ISBs/staging areas and resource movement away from staging to permanent locations within the affected area.
 - ESF #6
 - ♦ Coordinate through USAID/OFDA for receiving donated international goods.
 - ♦ Assess the need for, and coordinate the provision of, life-sustaining ESF #6 services, resources, and supplies from government agencies, NGOs, and the private sector.
 - ♦ Gather, assess, prioritize, coordinate, and communicate resource requirements.
 - ♦ Provide subject matter expertise to identify resource requirements to meet the life-sustaining needs of disaster survivors, including those with access and functional needs, and their household pets and service and assistance animals.
 - ♦ Gather, assess, prioritize, and communicate relevant information.
 - ♦ Communicate plans, requirements, and strategies to core capability providers.

- ♦ Acquire and manage resources, supplies, and services from core capability providers via contracts, mission assignments, IAAs, or donations.
- ESF #7
 - ♦ Coordinate the provision of logistics resources of local, state, tribal, territorial, insular area, and Federal entities, the private sector, and NGOs by providing comprehensive logistics planning, management, and sustainment resources and capabilities.
 - ♦ Acquire and manage resources, supplies, and services from core capability providers via contracts, mission assignments, IAAs, or donations.
 - ♦ Identify potential sites, coordinate the implementation of, and source Responder Support Camps in coordination with FEMA regions, as required.
 - ♦ Develop and implement plans for the delivery of critical resources to responders and survivors.
 - ♦ Activate ambulance services that have MOUs in place with transportation companies to move patients to available facilities.
 - ♦ Establish and operate logistics facilities, including the management of services related to lodging and feeding of incident support personnel.
 - ♦ Manage electronic data interchanges to provide end-to-end visibility of response resources.
 - ♦ Deploy ISB/staging area cache/kits and ISB teams, as required.
 - ♦ Provide base camp services to support deployed responders.
 - ♦ Execute fuel and mobile maintenance contract support as needed.
 - ♦ Maintain shared situational awareness to determine shortfalls and additional resource requirements.
 - ♦ Inventory and identify (to ESF #7) all large-space facilities/structures within 250 miles of the incident venue(s) that could be made available as temporary shelters, temporary morgues, or to support mass casualty medical operations.
 - ♦ Activate MERS and deploy life support vehicles and MERS emergency operations vehicle(s) to the affected area to establish a temporary operating location for the principal Federal official/FCO and support staff.
 - ♦ Coordinate with the RMG on recommended sourcing solutions to fulfill validated requirements (large quantities).
 - ♦ Identify and coordinate generator support requirements with ESF #3.
 - ♦ Reassess and adjust site location(s) for ISBs or staging areas, as required, in coordination with FEMA regions.
 - ♦ Identify and mitigate limiting factors and shortfalls.
 - ♦ Coordinate with affected regions to augment staging area teams and staging area kits, as required.
 - ♦ Coordinate distribution of durable medical equipment and disposable medical supplies.

- ESF #8
 - ♦ Coordinate with funeral homes/funeral directors for the handling of remains.
 - ♦ Coordinate the use of public/private facilities for alternate healthcare treatment sites.
 - ♦ Clarify requests for resources and provide animal subject matter expertise to assist meeting animal response needs (e.g., evacuation and sheltering of animals).
 - ♦ Provide technical assistance and coordinate with state agencies on potential needs for USDA Foods and possible D-SNAP requests.
 - ♦ Coordinate with local, state, tribal, territorial, and insular area agencies and private sector experts on requests to stabilize fragile natural and cultural resources.
- ESF #12
 - ♦ Coordinate with local, state, tribal, territorial, insular area, and Federal governments for the restoration of energy during response and recovery operations.
 - ♦ Provide subject matter expertise to the private sector as requested, to assist in restoration efforts.
 - ♦ Serve as a Federal point of contact, through the Department of Energy (DOE), with the energy industry for information sharing and requests for assistance from private and public sector owners and operators.

Phase 2c—Sustained Response

End State: Federal assistance, including coordination with nongovernmental, private sector, and international entities, has been incorporated into response operations. (Supports PS-MO-2, PS-MO-3)

- Tasks by Phase, by ESF
 - ESF #7
 - ♦ Shift responsibility for supply chain management to local, state, tribal, territorial, and insular area logistics coordinators.
 - ♦ Coordinate and implement international assistance resources and capabilities.
 - ♦ Coordinate the demobilization of unneeded resources, supplies, services, and personnel.
 - ♦ Produce plans for resource execution, sustainment, and eventual demobilization.
 - ♦ Participate in incident action planning, other adaptive planning, functional planning, and other efforts to support the actions of responders and protect survivors.
 - ♦ Collaborate with ESF #1, ESF #3, ESF #6, ESF #8, ESF #11, and ESF #12 to ensure the continued delivery of emergency relief supplies to shelters, PODs, and dispersed/shelter-in-place populations.
 - ♦ Monitor and manage elements associated with the logistics supply chain; logistics supply chain management system status; RMG/commodity managers; replenishment actions; temporary housing units (THU) status; and transportation.
 - ♦ Coordinate with region(s)/JFO(s) concerning daily resource burn rates and pull requirements.

- ♦ Report field receipt of deployed commodities for incorporation into reports and shared situational awareness products.
- ♦ Request space requirements from all partner departments and agencies with regards to the resources they are providing to support operations.
- ESF #11
 - ♦ Provide USDA Foods to state agencies for distribution to shelters and other mass feeding sites and, in certain limited situations, household distribution.
 - ♦ Provide infant formula and baby food to supplement FEMA's infant/toddler kits.
 - ♦ Authorize state agencies to issue D-SNAP benefits.
 - ♦ Facilitate development and application of measures and strategies to protect, preserve, conserve, rehabilitate, stabilize, and guide the recovery of natural and cultural resources and historic properties.
 - ♦ Share best practices and assist in the development of programmatic approaches to address and expedite NCH-related requirements for all Federal actions/initiatives taken to respond to or recover from an incident requiring a coordinated Federal response.
 - ♦ Provide assistance and expertise in addressing impacts to properties of traditional religious and cultural importance.
 - ♦ Provide up-to-date geospatial data related to impacted NCH; develop and provide standard operating procedures for collecting NCH digital data; conduct geographic information system analyses; and disseminate geospatial products related to NCH, such as maps.
 - ♦ Provide technical guidance to preserve, conserve, and stabilize records, archives, and collections and utilize existing records management expertise to assist in the response of state and local records in all formats.
- ESF #15
 - ♦ Evaluate the need for messaging regarding requests for donations. Messaging should focus on key shortfalls or resources that will support recovery.

Phase 3a—Short-term Recovery

End State: Responsibility for supply chain management has shifted to the local and state jurisdictions. (Supports PS-MO-2)

- Tasks by Phase, by ESF
 - ESF #3
 - ♦ Implement and manage the FEMA Public Assistance Program and other recovery programs between and among local, state, tribal, territorial, insular area, and Federal officials, to include efforts to permanently repair, replace, or relocate damaged or destroyed public facilities and infrastructure.
 - ESF #7
 - ♦ Participate in the development of planning to facilitate the transition from response activities to recovery activities.

- Demobilize selected ESF #7 response efforts as the appropriate RSFs continue to mobilize. Selected ESF #7 support actions activate THUs while others continue to support actions of ESF #6 and the National Disaster Response Framework, as required.
- Review AARs and revise plans and procedures accordingly.
- Closeout with ISB or staging area, as appropriate.
- Develop and implement retrograde plan.
- Support the Response Directorate with the return of evacuees, as required.
- Develop, coordinate, and implement a plan to donate excess resources to various local, state, tribal, territorial, and insular area entities, NGOs, and VOAD.

Administration and Support

The Logistics and Supply Chain Management core capability will follow standard protocols for activation, notification, deployment, and deactivation as Federal departments and agencies continue to maintain their roles and responsibilities under Federal laws and regulations.

Table D-2 indicates waivers relating to the Logistics and Supply Chain Management core capability during a catastrophic incident.

Table D-2: Legal Waivers

Type	Description (to include the citation of the law if applicable)
Waiver	<u>DHS</u> : Waive "coastwise laws" under the Merchant Marine Act of 1920 that provide that only vessels built and owned by citizens of the United States and flagged in the United States may carry merchandise between U.S. ports (e.g., granting waivers to allow non-U.S. vessels to transport petroleum and refined products). A "Jones Act" waiver may be granted by the Secretary of Homeland Security when the Secretary determines: (1) the Maritime Administration at the Department of Transportation has concluded there is no qualified U.S.-flagged vessel available and (2) the waiver is "necessary in the interest of national defense." Also, on request of the Secretary of Defense, the Secretary of Homeland Security shall waive these laws as necessary in the interest of national defense.
Waiver	<u>Federal Communication Commission</u> : Issue notices and orders providing telecommunications carriers, wireless carriers, and satellite operators in disaster-affected areas more time to file their regular reports and providing assistance in restoring operations (e.g., granting waivers to allow carriers and their numbering administrators to "port" telephone numbers geographically outside of their rate centers).
Waiver	In the event of a fuel supply emergency, the Environmental Protection Agency (EPA), with the concurrence of DOE, may temporarily waive a fuel or fuel additive requirement if doing so will alleviate the fuel supply emergency. When granted, the waiver allows use of a fuel that normally is not allowed in a particular time period or geographic area.

Annex D, Tab 1: Pre-scripted Mission Assignments

PSMAs were developed to facilitate rapid response and standardize mission assignments. The following tables lists the most commonly used PSMAs by disaster level (e.g., level 1, level 2) during the period from 1998–2011, sorted by ESF.

Table D, Tab 1-1: PSMA Level 1

ESF #	PSMAs Used	Title
N/A	31	Regional and National Activation
1	3	Pre-declaration Activation, RRCC
1	33	Pre-declaration Activation
1	105	Pre-declaration Activation
1	133	Federal Transportation Assistance
1	136	DoD/Rotary Wing Lift (Medium)
1	138	Tactical (Ground) Transportation Support
2	35	Pre-declaration Activation
2	107	Pre-declaration Activation
2	148	Communications Support to First Responders
3	5	Pre-declaration Activation, Regional Activation
3	80	Pre-declaration Activation
3	108	Pre-declaration Activation
3	153	Infrastructure Assessment
3	160	Critical Public Facilities Pre-declaration
3	163	Drinking Water Safety/Water & Wastewater Infrastructure Assessment Technical Assistance to State
3	164	Drinking Water Safety/Water & Wastewater Infrastructure Assessment & Repair
3	165	Emergency Power
3	204	U.S. Army Corps of Engineers (USACE) Deployable Tactical Operations Systems
3	209	USACE Deployable Tactical Operations System Support
3	212	USACE Local Government Liaison
3	214	USACE Recovery Field Office Operations
3	216	Remote Sensing/Geographic Information System (GIS)
3	268	Debris Oversight
5	187	Contract Security Officers
5	217	U.S. Coast Guard (USCG)
5	220	USCG, FEMA Region Activation
5	224	USCG, Damage Assessment

ESF #	PSMAs Used	Title
5	226	Aerial Imagery
6	116	Pre-declaration Activation
6	233	HHS, Federal Operations Support
6	237	Temporary Roofing
6	241	Temporary Housing—COTR (Contracting Officer's Technical Representative) and/or Technical Monitor Support to FEMA Individual Assistance Technical Assistance Contract (IA-TAC)
6	244	Veterinary Medical Support (non-National Disaster Medical System [NDMS])
6	249	Temporary Housing—Site Design
6	253	Animal and Plant Health Inspection Service (APHIS)
7	16	Pre-declaration Activation, RRCC
7	47	Pre-declaration Activation
7	207	USACE Logistics Support
8	49	Pre-declaration Activation
8	73	Federal Medical Station
8	118	Pre-declaration Activation
8	240	Emergency Prescription Assistance and Medical Equipment Replacement Program
8	248	Behavioral Healthcare
8	252	NDMS (includes Disaster Medical Assistance Team [DMAT], National Veterinary Response Team, Disaster Mortuary Operational Response Team [DMORT])
9	210	DoD Rotary Wing Lift (Medium) for Search and Rescue (SAR) (Federal Operations Support/Direct Federal Assistance)
9	211	USCG Search & Rescue Support
9	218	NPS Search & Rescue
10	53	Post-declaration, RRCC
10	120	Post-declaration, NRCC
10	179	Conduct Aerial Technical Analysis—Oil and Hazardous Materials Impacted Areas
10	199	USCG Strike Team Technical Assistance
10	205	EPA Technical Analysis—Oil and Hazardous Materials Response (Direct Federal Assistance)
10	208	EPA—Oil & Hazardous Materials Response
11	20	Pre-declaration Activation
11	94	Pre-declaration Activation
11	121	Pre-declaration Activation
12	96	Pre-declaration Activation
12	123	Pre-declaration Activation

ESF #	PSMAs Used	Title
13	62	Pre-declaration Activation
13	64	Pre-declaration Activation
13	180	Force Protection for Search & Rescue Personnel
15	167	USCG Public Affairs—Subject Matter Experts (SME)
15	168	OFA Subject Matter Expert (SME) support to ESF 15 Pre/Post Dec
15	170	Public Affairs Broadcast Transmission Support
15	287	Bureau of Indian Affairs—Tribal Affairs Support Pre/Post Dec

Table D, Tab 1-2: PSMA Level 2

ESF #	PSMAs Used	Title
N/A	32	Pre-declaration Activation
N/A	76	DoD, DCO/DCE
1	3	Pre-declaration Activation, RRCC
1	77	Pre-declaration Activation
1	105	Pre-declaration Activation
2	4	Pre-declaration Activation, RRCC
2	35	Pre-declaration Activation
2	79	Pre-declaration Activation
2	146	Transportation Communications Central
3	80	Pre-declaration Activation
3	108	Pre-declaration Activation
3	151	Debris
5	40	Pre-declaration Activation
5	187	Contract Security Officers
5	220	USCG FEMA Region Activation
5	224	USCG, Damage Assessment
6	231	Corporation for National and Community Service, Field Deployment
6	251	Temporary Housing—COTR/Technical Monitor Support to FEMA IA-TAC
7	47	Pre-declaration Activation
7	117	Pre-declaration Activation
8	17	Pre-declaration Activation
8	71	Public Health Services
8	72	Medical Care and Support

ESF #	PSMAs Used	Title
8	91	Pre-declaration Activation
8	238	HHS, Technical Assistance
8	240	Emergency Prescription Assistance and Medical Equipment Replacement Program
9	211	USCG Search & Rescue Support
10	208	EPA—Oil & Hazardous Materials Response
11	20	Pre-declaration Activation
11	94	Pre-declaration Activation
12	96	Pre-declaration Activation
13	64	Pre-declaration Activation
13	67	Pre-declaration Activation
15	167	USCG Public Affairs-SMEs

Table D, Tab 1-3: PSMA Level 3

ESF #	PSMAs Used	Title
1	3	Pre-declaration Activation, RRCC
3	5	Pre-declaration Activation, Regional Activation
3	36	Pre-declaration Activation
3	159	Debris
3	268	Debris Oversight
5	187	Contract Security Officers
6	231	Corporation for National and Community Service, Field Deployment
7	16	Pre-declaration Activation, RRCC
7	47	Pre-declaration Activation
7	90	Pre-declaration Activation
7	117	Pre-declaration Activation
10	19	Pre-declaration Activation

Appendix 1 to Annex D: Critical Transportation

Purpose

The purpose of this appendix is to describe the delivery of the Critical Transportation core capability within the Response mission area.

The Critical Transportation core capability provides transportation (including infrastructure access and accessible transportation services) for response priority objectives, including the evacuation of people and animals, and the delivery of vital response personnel, equipment, and services into the affected areas.

The Critical Transportation (TR) critical tasks are as follows:

- **TR-Critical Task-1.** Establish physical access through appropriate transportation corridors and deliver required resources to save lives and to meet the needs of disaster survivors.
- **TR-Critical Task-2.** Ensure basic human needs are met, stabilize the incident, transition into recovery for an affected area, and restore basic services and community functionality.

The Critical Transportation core capability facilitates the movement of lifesaving and life-sustaining resources and services through support to the assessment and reconstitution of the transportation infrastructure to meet operational response priorities. This core capability is organized as an appendix to the Logistics and Supply Chain Management (Operational Support) Annex, because it enables logistical or operational support, similar to the way the ground unit aligns to the Logistical Section in the National Incident Management System (NIMS).

Situation

Transportation routes are inaccessible following the disaster, delaying the delivery of critical lifesaving and life-sustaining Response core capabilities.

There may be bridge collapses that severely restrict the flow of traffic in the impacted area(s). Highways will require some level of debris clearance and removal. Urban transportation systems within the major metropolitan areas are nonfunctional. Obstructions to waterways disrupt marine transportation and require some level of clearance or workaround.

Within the impacted area, the ability to deliver resources via air, water, and rail is functional but limited. Railways within the impacted area have at least some debris across them, limiting movement. Several stations are damaged, and washouts require repairs before the railways will be fully operational. Physically accessible transportation, including public transportation, may be damaged or substantially unavailable, preventing evacuation by individuals with disabilities and their families and friends.

During a disaster, a Temporary Flight Restriction (TFR) may be put in place over all or part of the airspace covering the impact area. The Federal Aviation Administration (FAA) has the authority to manage the aircraft moving into and out of that airspace and may also apply traffic management provisions within the TFR to maximize safety and support the mission needs of the unified command.

There will be competition for transportation resources, requiring competing requests to be prioritized and deconflicted. Transportation assets and operations outside of the continental United States are minimal, which could prohibit or delay critical transportation response to Alaska, Hawaii, or U.S. territories.

If telecommunications services (e.g., Wireless Priority Service) are not properly functioning, damage assessments may be unavailable, delaying the prioritization and adjudication of resources to the impact area. Transportation of people and resources into and out of the impact area will be delayed until damage assessments are complete on bridges, roads, rail, and runways. Functional planning will be delayed until pathways are known.

The ability to sustain transportation services, mitigate adverse economic impacts, meet societal needs, and move emergency relief personnel and commodities will hinge on effective transportation decisions at all levels. Unnecessary reductions or restrictions to transportation will directly impact the effectiveness of all prevention, preparedness, response, recovery, and mitigation efforts.

Assumptions

General assumptions for the Response FIOP have been identified in the base plan.

Mission

Within the impacted area, Federal interagency partners will establish physical access through appropriate transportation corridors and deliver required resources to save and sustain lives and facilitate a seamless transition to recovery, in conjunction with whole community partners, as appropriate.

Execution

Concept of Operations

Phase 1

Federal Government departments, agencies, and partners work with local, state, tribal, territorial, and insular area government departments and agencies; NGOs; and private sector businesses during steady state and pre-incident operations to strengthen relationships and identify shortfalls. Through planning, training, and exercises, standard operating procedures, MOUs, IAAs, and other emergency plans that support capability are reviewed to assess the readiness and deployment posture of personnel, resources, and logistics support structures. Organizational structures and Federal officials responsible for the disaster response are pre-identified, and focus is placed on coordination with transportation system owners.

DHS will identify and catalog a national inventory of engineering resources (e.g., academia, retired engineers, professional associations such as the Society of American Military Engineers' Emergency Preparedness and Homeland Security Committee and the American Society of Civil Engineers) to develop a surge capacity for planning efforts and lower-level damage assessments. FEMA Logistics and Acquisitions personnel will explore the use of procuring transportation assets from non-impacted areas (e.g., recreational vehicles, regional commuter buses, school buses, vessels) to meet surge transportation needs. Identification and utilization of these resources will enable the Federal interagency partners to expand its capacity to rapidly deploy personnel and resources to facilitate the delivery of the Critical Transportation core capability during response.

Phase 2

The Federal Government alerts, deploys, and stages resources to support the assessment and reconstitution of the transportation infrastructure. During an incident, DOT and other Critical Transportation core capability support departments and agencies, structured through the NRF and NIMS, provide DHS with a unified structure to assemble and access key transportation-related

information, planning, and emergency management, including prevention, preparedness, and response, recovery, and mitigation capabilities at headquarters and at local, regional, and state levels. Initial response activities include:

- Monitoring and reporting the status of and damage to the transportation system and infrastructure
- Identifying temporary alternative transportation solutions to be implemented by others when primary systems or routes are unavailable or overwhelmed
- Implementing appropriate air traffic and airspace management measures
- Coordinating the issuance of regulatory waivers and exemptions.

Operations will be coordinated to restore and repair roadways, bridges, rails, ports, and national airspace system infrastructure. Additionally, support is provided for the transportation (including use of accessible vehicles) of evacuees back to the affected area and for moving affected populations, household pets, and service and assistance animals.

Phase 3a

The Federal Government works to ensure that transportation-related infrastructure is operational to allow for the free ingress and egress of personnel, equipment, and services into the affected area. The focus then shifts to providing longer-term coordination of the restoration and recovery of the affected transportation systems and infrastructure.

The Infrastructure Systems RSF is a complement to the response and short-term recovery efforts that take place under the NRF. As the ESFs demobilize, the Infrastructure Systems RSF team will facilitate long-term recovery operations. The intent of the Infrastructure Systems RSF is to ensure a seamless transition between the response and recovery phases. Upon activation, Infrastructure Systems RSF members should deploy early in the response phase to work with their ESF counterparts to shape long-term recovery actions. The Infrastructure Systems RSF focuses on four key ESFs during response operations: ESF #1, ESF #2, ESF #3, and ESF #12.

Coordinating Structure

Many ESFs support the Critical Transportation core capability. ESFs that perform tasks under this core capability are summarized in Figure D.1-1. Specific tasks conducted by these ESFs are identified in the Tasks by Phase sections (listed by ESF) below.

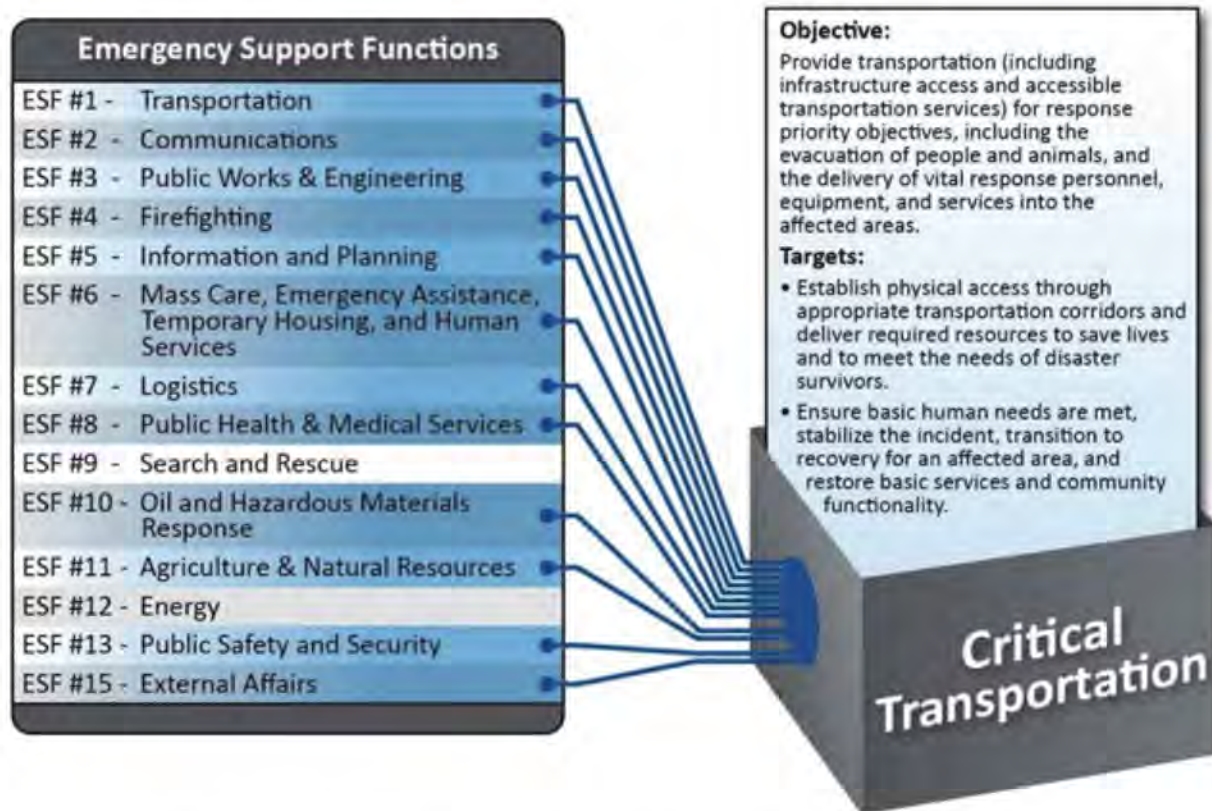


Figure D.1-1: Coordination of ESF Support to Critical Transportation

Primary responsibility for management of incidents involving transportation normally rests with local, state, tribal, territorial, and insular area authorities and the private sector, which own and operate the majority of the Nation's transportation resources. As such, a Federal response must acknowledge local, state, tribal, territorial, and insular area transportation policies, authorities, and plans that manage transportation systems and prioritize the movement of relief personnel and supplies during emergencies.

ESF #1 supports Federal response operations by assisting local, state, tribal, territorial, insular area, and Federal Government entities, voluntary organizations, NGOs, and the private sector in managing transportation systems and infrastructure during domestic threats or in response to incidents. ESF #1 provides a single hub for obtaining key transportation-related information, planning, and emergency management (including prevention, preparedness, response, mitigation, and recovery) capabilities at all levels of government. ESF #1 departments and agencies are not responsible for the movement of goods, equipment, animals, or people.

DOT serves as both the coordinator and Primary Agency for ESF #1. ESF #1 primary and support departments and agencies maintain considerable intermodal expertise and public and private sector stakeholder relationships to provide transportation assistance in domestic incident management. DOT provides support personnel to the NRCC, Regional RRCCs, and JFOs, with assistance from supporting departments and agencies, as necessary, to perform ESF #1 responsibilities. DOT coordinates closely with DHS, who, in support of ESF #1, is responsible for the security and safety of transportation assets, and liaises with DHS' Office of Infrastructure Protection to coordinate DOT activities with the private sector.

The Secretary of Transportation coordinates ESF #1, consistent with DOT's statutory mission, to promote fast, safe, efficient, and convenient transportation in support of the national objectives of general welfare, economic growth and stability, and the security of the United States.

FEMA is responsible for providing transportation assets and services (including contracts or other agreements for transportation assistance) for responders, equipment, and goods, consistent with ESF #7.

DoD transportation support will be provided in accordance with existing DoD guidance, the MOUs between DoD and DOT concerning commercial aviation programs, and the MOA between DoD and DOT concerning the National Defense Reserve Fleet and the Ready Reserve Force.

DOT will coordinate with FEMA and DoD for air support. Within 6 hours of a disaster, FAA will develop and implement contingency air traffic and airspace management measures (e.g., temporary flight restrictions and specialized air traffic flow management for air transport and air mobility type missions) and the NRCC will have identified the prioritization and use of airfields to enable air support to the disaster. DOT will support local, state, tribal, territorial, and insular area officials' efforts to conduct damage assessments to evaluate ground transport (e.g., roads, railways) conditions and restrictions (e.g., weight restrictions). USACE's Debris Planning and Response Teams (PRT), including contract support, removes and disposes of debris to provide clearance of roadways.

DOT will provide guidance to local, state, tribal, territorial, and insular area officials on routing for evacuations. During mass evacuations, consistent with the Mass Evacuation Incident Annex, FEMA provides transport for persons, including individuals who require accessible transportation, provided the individuals meet the following criteria:

- Evacuees can be accommodated at both embarkation points and at destination general population shelters.
- Evacuees can travel on commercial long-haul buses, aircraft or passenger trains, or lift-equipped buses.
- Evacuees do not have medical needs indicating the need for transportation by ESF #8.

Consistent with the Mass Evacuation Incident Annex and the Post-Katrina Emergency Management Reform Act, FEMA is responsible for evacuation of service and companion animals.

FEMA will support states by providing limited bus evacuations for ambulatory patients, possibly without medical oversight, between medical facilities and within limitations and capabilities of assets and drivers.

For incidents involving a blast or explosion associated with a chemical, biological, radiological, or nuclear (CBRN) threat agent resulting in a contaminated debris field, ESF #3 leads Federal actions to clear critical transportation routes of CBRN-contaminated debris, during the emergency phase, in consultation with ESF #10. ESF #10 assumes leadership for management of CBRN-contaminated debris after the emergency phase is over.

ESFs that provide support to the delivery of the Critical Transportation core capability are included in the following section.

Critical Transportation Tasks

Mission Objectives

- TR-MO-1: Coordinate the planning and operational analysis to deliver critical transportation requirements. (Supports TR-Critical Task-1, TR-Critical Task-2)

- **TR-MO-2:** Conduct assessments of the condition and safety of transportation pathways and plan accordingly. (Supports TR-Critical Task-1, TR-Critical Task-2)
- **TR-MO-3:** Prioritize the restoration of damaged/unusable pathways, identify alternate pathways, and coordinate rapid repairs to facilitate responder access and provide basic services. (Supports TR-Critical Task-1)
- **TR-MO-4:** Assess resource requirements to support the reconstitution of the transportation infrastructure. (Supports TR-Critical Task-2)
- **TR-MO-5:** Prioritize, adjudicate, and allocate resources to deliver critical transportation requirements. (Supports TR-Critical Task-2)
- **TR-MO-6:** Support the evacuation of disaster survivors. (Supports TR-Critical Task-1, TR-Critical Task-2)
- **TR-MO-7:** Provide delivery of vital response personnel, equipment, and services into the impacted area. (Supports TR-Critical Task-1)
- **TR-MO-8:** Respond to, coordinate, and prioritize the delivery of resources to disaster survivors and responders in the impacted area. (Supports TR-Critical Task-2)

Phase 1a—Normal Operations

End State: Plans have been reviewed, updated, and exercised and coordination has occurred between local, state, tribal, territorial, insular area, and Federal governments and voluntary and private sector representatives. (Supports TR-MO-1)

Tasks by Phase, by ESF

- **ESF #1**
 - ♦ Develop a plan to coordinate transportation support functions to provide transportation infrastructure information among NGO participants.
 - ♦ Review, update, and exercise the following:
 - Existing response plans and standard operating procedures to incorporate best practices and lessons learned
 - Key personnel rosters with accurate contact information (e.g., FCO, NRCC, RRCC, JFO, and special teams)
 - Develop and review PSMA, MOUs, and IAAs.
 - ♦ Conduct detailed gap analysis of transportation infrastructure with local, state, tribal, territorial, and insular area partners to ascertain expected Federal support resources.
- **ESF #2**
 - ♦ Maintain effective communications by updating point-of-contact lists, verifying video teleconference and telecommunications capabilities, and testing information systems.
- **ESF #5**
 - ♦ Predesignate key Federal officials and identify response organizational structures in anticipation of an incident (e.g., FCO and the locations of JFOs).

- ESF #7
 - ♦ Maintain backup generators for FAA assets in preparation for a potential large-scale power outage.

Phase 1b—Elevated Threat

End State: Evacuation planning has been coordinated with public and private sector transportation system owners and operators. (Supports TR-MO-2)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 1c—Credible Threat

End State: Pre-incident coordination with public and private stakeholders has led to the pre-identification of resources necessary for the reconstitution of transportation infrastructure. (Supports TR-MO-1, TR-MO-4)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 2a—Immediate Response

End State: Information regarding the operational environment has been analyzed to gauge preliminary planning and response needs. (Supports TR-MO-1, TR-MO-2, TR-MO-3, TR-MO-4, TR-MO-5)

- Tasks by Phase, by ESF
 - ESF #1
 - ♦ Initiate reporting to the Office of the Secretary of Transportation, NOC Watch, NICC, NRCC, FBI Strategic Information and Operations Center, Transportation Security Operations Center, DOT operating administrations and regional offices, and the Regional Emergency Transportation Coordinator (RETCO) and Regional Emergency Transportation Representatives.
 - ♦ Activate the DOT Emergency Response Team.
 - ♦ Staff ESF #1 at the NRCC.
 - ♦ Dispatch staff to the NRCC, RRCC(s), JFO(s), and Evacuation Liaison Team.
 - ♦ Activate the RETCOs and Regional Emergency Transportation Representatives.
 - ♦ Inform and invite participation by ESF #1 support departments and agencies.
 - ♦ Identify temporary alternative transportation solutions that can be implemented by others when systems or infrastructure are damaged, unavailable, or overwhelmed.
 - ♦ Work with transportation system owners and operators to coordinate the pre-positioning of resources to complete the restoration of transportation infrastructure following a disaster.

- Coordinate with ESF #5, ESF #6, ESF #8; local, state, tribal, territorial, and insular area governments; the private sector; and voluntary organizations to identify and deploy capabilities to transport identified populations.
- Determine the time available to conduct operations and the distance to (and availability of) shelters.
- The Evacuation Liaison Team is activated to support coordination with local, state, tribal, territorial, and insular area governments and nonprofit and private sector participants.
- Provide transportation coordination and analysis for evacuation operations and evacuation route conditions.
- Coordinate with DHS to initiate emergency permit and waiver requests to facilitate evacuation, including:
 - Temporary relief from specific safety regulations to allow direct response or relief transportation services to continue to a declared disaster or emergency from the Federal Motor Carrier Safety Administration
 - Truck size and weight limit permits from state Departments of Transportation
 - Jones Act waivers from DHS
 - Fuel quality waivers from EPA.
- Activate specialized aviation support units through the Department of Commerce (DOC)/National Oceanic and Atmospheric Administration (NOAA)/Office of Marine and Aviation Operations.
- Coordinate air operations requirements with ESF #1, ESF #5, and ESF #13.
- Identify evacuation shortfalls and outstanding transportation needs.
- Monitor and report the status of, and damage to, the transportation system and infrastructure as a result of the incident.
- Maintain coordination with ESF #1/DOT/FAA to enable air operations through air navigation services measures, including air traffic control, flow management, and airspace measures.
- Coordinate the availability of privately owned transportation.
- Coordinate with Federal departments and agencies to determine evacuation support requirements.
- Inventory and make available cargo and passenger aviation assets and report availability to the MCC in the NRCC to read inventory and report availability to the MCC.
- Deploy Federal Air Marshals Transportation Security Advanced Team through DHS/Transportation Security Administration to affected airports.
- Coordinate with USCG and local, state, tribal, territorial, and insular area departments and agencies to manage maritime traffic and provide maritime port and infrastructure awareness and analysis.
- If the International Assistance System were to be activated, the USAID/OFDA will begin to identify commercial assets in the region to help with receiving international donations and transport as directed.

- ♦ Review all necessary cargo and passenger aviation activities, inventory and make available cargo and passenger aviation assets, and report availability to the MCC in the NRCC to inventory and report availability to the MCC.
- ♦ Provide an assessment of the transportation and infrastructure systems to the NOC and NRCC.
- ♦ Notify, activate, and/or deploy pre-positioned equipment teams.
- ♦ Provide an update on the status of transportation systems and provide emergency transportation management recommendations to DHS. Continue updates as necessary.
- ♦ Request Deployable Distribution Expeditionary Depot availability through DoD, if necessary.
- ESF #3
 - ♦ Provide public works and engineering-related support to activities relating to the debris clearance of evacuation routes.
 - ♦ Staff ESF #3 at the NRCC.
- ESF #5
 - ♦ Provide situational awareness and coordination of mass evacuation efforts.
 - ♦ Develop requirements for manifesting evacuees.
 - ♦ Support Federal evacuation support actions, as requested.
- ESF #6
 - ♦ Identify general population shelters as close to the embarkation and debarkation points as safely possible.
 - ♦ Identify resources to meet household pets and service and assistance animals' evacuation requirements in coordination with ESF #11 and ESF #1. Determine the distance and number of household pets and service and assistance animals that will be evacuated.
 - ♦ Provide information for and coordination of mass care and emergency assistance and human services support for non-medical evacuees when requested by the state.
 - ♦ Coordinate available Federal, private sector, and voluntary organization resources to support feeding and sheltering along evacuation routes.
 - ♦ Initiate capabilities to support the tracking of evacuee movement and reunification services through FEMA in coordination with the private sector and NGOs (where appropriate).
 - ♦ Identify shelter requirements for evacuees in coordination with evacuation planners and mass care providers.
 - ♦ Coordinate with FEMA Regions to assist/support state emergency evacuation (as requested by the state).
- ESF #7
 - ♦ Deploy Mobile Communications Office Vehicle drivers to distribution centers (DC) for deployment at Deputy Assistance Directors' direction, as described in the International Assistance System process.

- ♦ If required, USAID/OFDA would contact DoD to request use of an air base to receive donations from international donors through the International Assistance System process.
- ♦ Provide goods and services to support evacuation efforts and transportation services.
- ♦ Manage transportation of material from storage facilities and vendors to incident survivors, with emphasis on the surge and sustainment portions of response.
- ♦ Initiate actions to deploy and deliver appropriate Strategic National Stockpile initial push-packages to an ISB/Staging Areas or other designated reception location.
- ♦ Coordinate with NRCC and the Logistics Management Center.
- ♦ Activate links to the private sector (e.g., secure Critical Emergency Operations Communications Link and request the inventory and identification of available transportation assets; potential mass shelter facilities; and medical facilities, personnel, equipment, and supplies).
- ♦ Execute fuel and mobile maintenance contract support as needed.
- ♦ FEMA Logistics Transportation will collaborate, determine, source, and implement support requirements. FEMA will provide access to storage facilities as needed.
- ♦ Commence transportation of Execution Schedule Assets. Continue to execute at a minimum of 2-hour intervals (all departments and agencies should refer to that schedule).
- ♦ Alert GSA to be prepared to procure needed items, support transportation requests, and deploy GSA leasing specialists.
- ESF #8
 - ♦ Coordinate medical staging and medical evacuation of patients.
 - ♦ Provides supplemental assistance in identifying the Public Health, Healthcare, and Emergency Medical Services needs of evacuees, including patient evacuation and child reunification with an appropriate adult.
 - ♦ Mobilize resources for immediate pickup at the designated air/ground departure point.
 - ♦ Initiate actions to deploy and deliver appropriate Strategic National Stockpile initial push-packages to an ISB/staging area or other designated reception location. Coordinate with NRCC and Logistics Management Center.
 - ♦ Deploy requested NDMS DMAT caches using secure transportation. FEMA and other ESF #8 partners provide access to storage facilities as needed.
- ESF #11
 - ♦ Provide planning assistance to the states for the evacuation of household pets, when mission assigned.
 - ♦ Gather USDA Foods' inventories in affected areas and provide to ESF #6.
- ESF #13
 - ♦ Provide support to local, state, and tribal law enforcement to secure the perimeter of the impacted area, including secondary and tertiary roads.
 - ♦ Coordinate with local, state, tribal, territorial, and insular area law enforcement as well as ESF #13 to ensure the security of transportation assets used for evacuation.

- ♦ Provide support of local, state, tribal, territorial, and insular area public safety and security measures (e.g., crowd control, traffic direction, and control of contraflow lanes used in evacuations).
- ESF #15
 - ♦ Provide public messaging to notify the affected population of evacuation routes and other emergency information through FEMA EA.
 - ♦ Support responders and local, state, tribal, territorial, and insular area government officials in providing accurate, coordinated, and timely public information to affected audiences.

Phase 2b—Deployment

End State: Activation and deployment of transportation assessment teams has yielded information necessary for operational coordination. Priorities for the coordination and restoration of critical infrastructure have been established, and Federal resources in support of critical transportation efforts have been prioritized and deployed to the affected area. (Supports TR-MO-2, TR-MO-3, TR-MO-5, TR-MO-6, TR-MO-7, TR-MO-8)

- Tasks by Phase, by ESF
 - ESF #1
 - ♦ Coordinate with local and state departments of transportation on operations to restore and repair roadways, bridges, rails, ports, and national airspace system infrastructure.
 - ♦ Provide resources and coordinate support to local, state, tribal, territorial, and insular area evacuations of the affected population.
 - ♦ Support local, state, tribal, territorial, and insular area governments in evaluating evacuee reception capabilities throughout the impacted area and surrounding region.
 - ♦ Support local, state, tribal, territorial, and insular area governments in coordinating transportation assets, including accessible transportation at reception sites to transport evacuees to appropriate shelters.
 - ♦ Enable air operations through air navigation services measures, including air traffic control, flow management, and airspace measures. Coordinate air operations requirements with ESF #1, ESF #5, and ESF #13.
 - ♦ Develop requirements for manifesting evacuees.
 - ♦ Coordinate with the energy industry to ensure fuel is available to responders and individuals along the evacuation route. Private sector fuel distributors identify specific retail outlets to remain open and dispense fuels to emergency responders and/or evacuees.
 - ♦ Coordinate with local, state, tribal, territorial, and insular area law enforcement.
 - ♦ Identify shortfalls and use additional capabilities to transport identified populations, support required pet evacuation capabilities, and provide reception capabilities throughout the impacted area and surrounding region while maintaining tracking of evacuees.
 - ♦ Coordinate evacuation routes with local, state, tribal, territorial, and insular area departments and agencies; private sector and voluntary organizations.

- ♦ Coordinate the impact of outflow of evacuating persons and the transportation requirements for the entry of response teams and supplies into the affected area.
- ♦ Provide emergency transportation management recommendations to DHS, based on the status of the transportation system.
- ♦ Provide critical transportation for survivors including individuals with access and functional needs, such as individuals with disabilities.
- ESF #3
 - ♦ Conduct restoration of navigation pathways, including air, surface, and waterways.
 - ♦ Coordinate with local, state, tribal, territorial, and insular area governments to support debris-removal operations that align with transportation priorities.
 - ♦ Advise state/local representatives on the safety of infrastructure to support reentry decision making.
 - ♦ Provide technical assistance to support the rapid recovery and reconstitution of critical waterways, channels, and ports (including vessel removal, significant marine debris removal, emergency dredging, and hydrographic surveys).
- ESF #5
 - ♦ Activate ESF #1 at the national and regional levels to provide coordination and technical assistance.
 - ♦ Provide reports on the status of evacuation, repopulation, and transportation to support shared situational awareness and the common operating picture. Coordinate with local, state, tribal, territorial, and insular area entities and private sector and voluntary organization transportation service providers to ensure that vehicles and vehicle operators are available and are dispatched to pick-up points.
 - ♦ Provide support to coordinate the evacuation of household pets.
- ESF #6
 - ♦ Identify requirements and request transportation resources for the delivery of life-sustaining supplies and services to the affected area
 - ♦ Identify, request, and acquire transportation resources for the delivery of life-sustaining supplies and services to the affected area.
 - ♦ Initiate outreach to vendors, NGOs, and national voluntary organizations active in disasters to acquire additional support vehicles for mobile feeding activities.
 - ♦ Coordinate available Federal resources to support feeding and sheltering along the evacuation routes.
- ESF #8
 - ♦ Coordinate medical staging and medical evacuation to patients.
 - ♦ Identify medical evacuation shortfalls through NDMS. FEMA's National Ambulance Contract provides ground transportation, including accessible transportation for people with mobility disabilities, and DoD, if mission assigned, may register patients and provide air transportation outside of the impacted areas.

- ESF #10
 - ♦ Support the identification of safe evacuation and ingress routes and assess the nature and extent of contamination, if transportation infrastructure or routes are contaminated by oil or hazardous materials.
- ESF #11
 - ♦ Deliver needed and requested USDA Foods and infant formula and baby food.
 - ♦ Conduct surveys and evaluations for archaeological resources, historic structures, cultural landscapes, biological resources, wetlands, and critical habitats.
 - ♦ Recommend mitigation activities for both natural and cultural resources to reduce the impacts of repairs, road surveys, and construction.
- ESF #13
 - ♦ Support the security of transportation assets used for evacuation.
- ESF #15
 - ♦ Provide public messaging to notify the affected population of evacuation routes and other emergency information.

Phase 2c—Sustained Response

End State: Infrastructure assessments have been performed, and stabilization of critical transportation infrastructure has been completed. Survivor evacuation is complete, and vital resources and services have been delivered to disaster survivors and responders within the impacted area. (Supports TR-MO-2, TR-MO-3, TR-MO-6, TR-MO-7, TR-MO-8)

- Tasks by Phase, by ESF
 - ESF #1
 - ♦ Identify shortfalls and reposition or demobilize resources from areas where objectives have been achieved.
 - ESF #3
 - ♦ Coordinate with local, state, tribal, territorial, and insular area governments to support debris removal operations that align with transportation priorities.
 - ESF #6
 - ♦ Develop a strategy for allowing the population to return to the affected area without disrupting response operations or putting strain on local resources (e.g., feeding, sheltering, power distribution, roads, fuel, and security).
 - Determine that the affected area is safe for individuals to return and that the infrastructure can sustain a return of the population.
 - Coordinate the transportation of evacuees back to the affected area and provide vehicles, including accessible vehicles.
 - Determine housing options, including return to affected areas, for evacuees temporarily displaced to locations away from the home of record.

- ESF #8
 - ♦ Develop a strategy for medical patient repatriation as healthcare facilities in the affected area return to service.
- ESF #10
 - ♦ Clean up and/or decontaminate transportation infrastructure and routes as appropriate if they are contaminated by oil or hazardous materials. Assume leadership from ESF #3 for management of CBRN-contaminated debris.

Phase 3a—Short-term Recovery

End State: Transportation infrastructure has been restored to allow the free ingress and egress of personnel, equipment, and services into the affected area. (Supports TR-MO-7)

- Tasks by Phase, by ESF
 - ESF #1
 - ♦ Provide longer-term coordination of the restoration and recovery of the affected transportation systems and infrastructure.

Administration and Support

The Critical Transportation core capability will follow standard protocols for activation, notification, deployment, and deactivation with each Federal department and agency continuing to maintain its roles and responsibilities under Federal laws and regulations.

Table D.1-1: Critical Transportation Core Capability Permits and Waivers

Type	Description
Permit and Waiver	The Federal Motor Carrier Safety Administration may provide temporarily relief from specific safety regulations to allow direct response or relief transportation services to continue to a declared disaster or emergency. This condition allows covered drivers to drive longer hours than would otherwise be permitted.
Permit and Waiver	Grant exemptions under 49 U.S.C. § 40109 to permit certain air carriers to engage in foreign air transportation of people and property (for compensation) between any point not in the United States and any point in the United States for the evacuation of people from affected areas and to carry personnel relief supplies in support of the relief efforts.
Permit and Waiver	Grant exemptions under 49 U.S.C. § 40109 to issue emergency exemptions to permit air carriers normally licensed only for private air transportation to offer their services to the public at large, including government and private relief organizations, to assist in relief efforts.
Permit and Waiver	DOT grants special authorization under 14 C.F.R. § 375.70 to permit foreign civil aircraft to be used to carry evacuees and other persons and relief supplies without charge, to the extent those operations would not otherwise be authorized under 14 C.F.R. § 375.35.
Permit and Waiver	Grant carriers licensed under 14 C.F.R. Part 125 emergency exemption authorities from the provisions of 49 U.S.C. § 41101 to allow those carriers to provide assistance in the carriage of freight and people affected by the disaster and the transport into the affected areas of relief and personnel supplies.

Appendix 1 to Annex D, Tab 1: Resource and Team Cache

The Resource and Team Cache spreadsheet is an inventory of resources and teams from various Federal departments and agencies and that, if available, could be activated and deployed. This is not an all-inclusive list but a sampling of the array of Federal resources that can be applied; however, in the case of suspected or actual terrorist incidents, investigation, counterterrorism response and related intelligence activities would fall under the Prevention mission area to resolve the threat. The table below lists resources by core capability and ESFs that are being supported and provides a brief description of the services provided by the team(s). This list may be used to determine if a resource exists; however, it does not indicate that the resource is either available or deployable at the time a disaster occurs. The FIOP is designed to be an all-hazard no-notice plan that describes how local, state, tribal, territorial, insular area, and Federal governments provide for the needs of survivors following an emergency or disaster. The Resource and Team Cache lists chemical, biological, radiological, nuclear, or high-yield explosive (CBRNE) teams among other incident-specific specialty teams and captures their capabilities so that they can be considered for deployment to satisfy specific needs.

Table D.1, Tab 1: Resource and Team Cache

Core Capability	ESF Support	Capability	Description
TR	ESF #1	Air Component Coordination Element	Provides coordination assistance to the Joint Air Operations Center.
TR	ESF #1	Airborne Command and Control—Emergency Management Support	Promotes the safe flow of high-density SAR air traffic in coordination with the FAA; coordinates and prioritizes time-critical survivor data among ground, air, and command elements; and manages and expedites search-and-rescue efforts.
TR	ESF #1	Airspace Control (Ground)	Provides air traffic control from ground locations for the purposes of providing visual flight rules and reconstitution of visual flight rule tower services and visual flight rule operations.
TR	ESF #1	Rotary Wing Lift (Heavy)	Supports the movement of personnel and supplies through the use of heavy lift rotary wing aircraft.
TR	ESF #1	Rotary Wing Lift (Medium)	Supports the movement of personnel and supplies through the use of medium lift rotary wing aircraft.
TR	ESF #1	Strategic Transportation Support	Supports the movement of cargo and/or non-medical personnel.
TR	ESF #1	Tactical (Ground) Transportation Support	Provides ground transportation resources to support the movement of cargo and/or passengers.
TR	ESF #3	Emergency Route Clearance	Provides support for the clearance of routes.

Core Capability	ESF Support	Capability	Description
TR	ESF #11	Cultural Resources Emergency Response Team	Supports the protection of natural and cultural resources and historic properties.
TR	ESF #1	Evacuation Liaison Teams	Provides resources for evacuation coordination, including liaison teams and transportation system and coordination support. Participates in evacuation planning and identifying assets to support evacuations.
TR	ESF #1	Federal Transportation Assistance	Monitors and reports the status of and damage to the transportation system and infrastructure resulting from the incident; identifies alternative transportation solutions that can be implemented by others when infrastructure are damaged, unavailable, or overwhelmed; coordinates restoration and recovery of transportation infrastructure; and performs activities conducted under the direct authority of DOT elements as these relate to aviation, maritime, surface, railroad, and pipeline transportation.
TR	ESF #1	RETCO	RETCOs coordinate and provide assistance to other local, state, tribal, territorial, insular area, and Federal entities in emergency preparedness and response for transportation services. RETCOs act as a single point of contact during major, Presidentially declared incidents to expedite and validate requests to DOT by the FCO or the principal Federal official at the incident site. However, the Secretary can designate another official in this capacity on the basis of the nature and extent of the disaster or major incident.
TR	ESF #8	Federal Rail Evacuation Support	Provides pre-planning and coordination support during rail evacuations.
TR	ESF #1	Transportation Security Advanced Team	Supports evacuation operations and surge requirements in the affected area and develops support requirements to continue the mission of transportation security related operations.
TR	ESF #1	Transportation Security Forward Team	Supports evacuation operations or surge requirements in the affected area to expeditiously screen passengers and property that will be carried aboard passenger aircraft.
TR	ESF 3	Vessel Salvage/Vessel Debris Assessment and Removal (Direct Federal Assistance)	Conducts assessment and removal of eligible vessels and vessel debris in support of operations.

Core Capability	ESF Support	Capability	Description
TR	ESF #5	Damage Assessment	Conducts aerial and waterborne damage assessments.
TR	ESF #7	Transportation Support	Provides fixed-wing transportation support for cargo and/or personnel.
TR	ESF #7	Vessel Transportation Support	Provides vessel transportation support for cargo and/or personnel.
TR	ESF #8	Transportation of Medical/Casualty Personnel and/or Cargo	Provides aircraft transportation for medical and/or personnel evacuation.
TR	ESF #3	Emergency Road Chainsaw Crew	Provides chainsaw crews to assist in debris clearing.
TR, Infrastructure Systems (IS)	ESF #3	Debris Oversight	Provides support for oversight of state and/or local entities' debris operations.
TR, IS	ESF #3	Debris PRT	Support demolition, clearance, removal, transport, temporary storage, segregation, reduction, and, ultimately, disposal of debris.
TR, IS	ESF #3	Debris Team	Debris management refers to the collective operations of demolition, clearance, removal, transport, temporary storage, segregation, reduction, and, ultimately, disposal of debris, whether generated by natural disaster or terrorist event. Debris may be largely woody in nature resulting from hurricanes, tornadoes, or coastal storms; construction and demolition material resulting from earthquakes or acts of terrorism; and household contents resulting from flooding or any of the other aforementioned threats. Reduction operations are typically accomplished by grinding, chipping, or incinerating, and the preferred method of disposal is to deposit debris in locally provided landfills. Recycling, particularly as related to construction and demolition material, is desirable as a means of preserving landfill capacity.
Environmental Response/ Health and Safety (EH)	ESF #12	National Atmospheric Release Advisory Center	Provides tools and services to map the probable spread of hazardous material accidentally or intentionally released into the atmosphere. The Interagency Management and Atmospheric Assessment Center (IMAAC) provides atmospheric plume predictions to determine if taking protective action is necessary.

Core Capability	ESF Support	Capability	Description
EH	ESF #10	EPA CBRN Consequence Management Advisory Team	Provides scientific and technical support for all phases of environmental response to a CBRN incident, including site characterization, building and structure decontamination, environmental cleanup, and clearance for use; manages EPA's Airborne Spectral Photometric Environmental Collection Technology (ASPECT) fixed-wing aircraft, which provides chemical/radiological plume mapping; and operates EPA's mobile chemical warfare agent laboratories known as Portable High Throughput Integrated Laboratory Identification Systems.
EH	ESF #10	EPA Environmental Response Team	Provides scientific and technical expertise, including health and safety, environmental sampling, air monitoring, toxicology, risk assessment, waste treatment, contaminated water/scientific divers; and site decontamination and cleanup; provides field-analytical and real-time air monitoring with EPA mobile laboratories known as Trace Atmospheric Gas Analyzers.
EH	ESF #10	Fixed Laboratories	Provide capability to analyze environmental samples for toxic industrial chemicals.
EH	ESF #10	Fixed Laboratory—Radiation	Provides capability to perform routine and emergency radio analysis of environmental samples.
EH	ESF #10	EPA Fixed-wing Aircraft for Aerial Air Monitoring	The ASPECT aircraft is managed by EPA's CBRN Consequence Management Advisory Team and provides chemical/radiological plume mapping. It is also capable of collecting high-resolution digital photography and video and can take thermal and night images.
EH	ESF #10	EPA Radiological Environmental Assessment Equipment	Provides mobile laboratories and sample preparation trailers, fixed and deployable RadNet monitors, field radiological scanning systems, sampling equipment, and hand-held monitors.
EH, On-scene Security, Protection, and Law Enforcement (OP)	ESF #10, ESF #13	EPA National Criminal Enforcement Response Team	Provides criminal investigative expertise, including evidence collection, chain of custody, and other investigative and forensic technical assistance, particularly for contaminated environments, and law enforcement liaisons to support EPA OSCs and other EPA response personnel.

Core Capability	ESF Support	Capability	Description
EH, IS	ESF #3, ESF #10	Response Support Corps	EPA personnel trained to support EPA's Incident Management Teams and other response venues (e.g., EPA headquarters and Regional emergency operations centers [EOCs]) for ESF #3, ESF #10, and other EPA NRF/FIOP support functions.
EH	ESF #10	Scientific Support Coordinators	Scientific Support Coordinators, as defined in the National Oil and Hazardous Substances Pollution Contingency Plan, may be designated by the Federal On-scene Coordinator (OSC) for oil and hazardous materials spills to serve as the principal advisors for: addressing scientific issues, communicating with the scientific community, and coordinating requests for assistance from state and Federal agencies regarding scientific studies. Areas of expertise include predicting the movement of releases; assessing the environmental and health impacts of releases; and advising on environmental response options. Generally, the EPA provides the Scientific Support Coordinator for inland zone incidents, and the DOC/NOAA provides the Scientific Support Coordinator for coastal zone incidents.
EH	ESF #10	OSCs	Coordinates the on-scene, tactical response to oil and hazardous materials incidents, including assessment of the extent and nature of environmental contamination; assessment of environmental cleanup options; and implementation of environmental cleanup, including decontaminating buildings and structures and management of wastes. EPA generally provides the Federal OSC for incidents in inland areas, while USCG provides the Federal OSC for incidents in coastal areas.
EH	ESF #10	DOC/NOAA	DOC/NOAA/National Weather Service (NWS) provides spot forecasting and incident meteorology tailored to support response activities
EH	ESF #10	EPA Radiological Emergency Response Team	Following a radiological incident, provides advice on protective measures to ensure public health and safety; assessments of dose and impact of release to public health and the environment; monitoring, sampling, laboratory analyses and data assessments to assess and characterize environmental impact; and technical advice and assistance for containment, cleanup, restoration, and recovery.

Core Capability	ESF Support	Capability	Description
EH	ESF #10	National Strike Force	The USCG National Strike Force is a special team available to assist OSCs in their preparedness and response duties. Teams respond to actual or potential discharge and/or uncontrolled release of oil or hazardous materials. Provides oil and hazardous material spill support, including technical assistance, assessment, and oversight for cleanup activities.
Fatality Management Services (FM)	ESF #8	Mortuary Affairs Assistance	Provides personnel in support of recovery and transport of remains to collection points and mortuary affairs facilities and the preparation and shipment of remains to designated locations for final disposition.
IS	ESF #12	Energy Infrastructure Response Team	Energy infrastructure responders that are available to respond to an event location to minimize disruptions to energy.
IS	ESF #12	Homeland Infrastructure Foundation Level Data	Provides access to federally-sponsored data sets, geospatial software tools, and training/education resources to meet mission needs.
IS	ESF #5	Modeling, Simulation, Analysis, and Geospatial Support (Federal Operations Support/Technical Assistance)	Provides critical infrastructure data, geospatial products, modeling, simulation, and analysis support.
IS	ESF #3	Critical Public Facilities	Provides support for critical public facilities.
IS	ESF #3	Emergency Power	Provides Type I, Type II, and Type III Generator Response Packages.
IS	ESF #3	FEMA Public Assistance for Drinking Water and Wastewater Infrastructure	Provides water-sector experts to assist FEMA Public Assistance program staff with water-sector activities.
IS	ESF #3	Infrastructure Assessment	Supports structural evaluations of primarily residential buildings to determine whether damaged or potentially damaged buildings are safe for use or if entry should be restricted or prohibited.
IS	ESF #3	Drinking Water Safety/Water & Wastewater Infrastructure Assessment and Repair	Provides assessments, evaluation, and design/build response and recovery activities for drinking water and wastewater systems and storm water infrastructure.

Core Capability	ESF Support	Capability	Description
IS	ESF #3	Drinking Water Safety/Water & Wastewater Infrastructure Assessment Technical Assistance to State	Provides technical assistance to jurisdictions for the drinking water and wastewater infrastructure/safety mission.
IS	ESF #3	Emergency Power	Provides temporary emergency power generation to the affected area.
IS	ESF #3	Infrastructure Assessment PRT	Provides assets and support personnel to execute rapid structural assessments of affected infrastructure—primarily residential. USACE also provides assistance for missions, including electrical, mechanical, geotechnical, structural engineering, US&R, and water/water infrastructure assessments and repairs.
IS	ESF #3	Prime Power 249th Engineer Battalion	Assesses critical facilities to determine generator and other requirements for temporary emergency power.
IS	ESF #3	Technical Assistance to the State	Provides technical assistance to jurisdictions to aid them in accomplishing priority missions.
IS	ESF #3	US&R Structural Specialist Cadre	Deploys specially trained and equipped structural engineers to augment FEMA US&R task forces, Incident Support Teams (IST), military technical rescue organizations, and general purpose troops during structural collapse incidents and other disaster response missions. This rescue engineering capability provides technical support and advice to task force leaders and commanders to assess damage, mitigate hazards, enable safe entry, and assure mobility throughout a disaster site to enable rescue and lifesaving operations. The US&R Program develops doctrine, training programs, and national standards for structural collapse response operations, conducts initial training courses, advanced coursework, exercises and continuing education for all FEMA US&R Structures Specialists and others, under ESF #9 of the NRF.
IS	ESF #8	Food Emergency Response Network	Integrates the Nation's food-testing laboratories at Federal, state, and local levels into a network of capable responding to emergencies involving food contamination.

Core Capability	ESF Support	Capability	Description
IS	ESF #12	EAGLE-I capability to monitor the Nation's energy infrastructure in near real-time and geospatially map energy assets and systems.	Provides access to the electric grid, the Nation's petroleum and natural gas networks. Mapping functionality within EAGLE-I includes the ability to add real-time weather hazards such as earthquakes, floods, hurricanes, volcanoes, wildfires, and weather watches and warnings.
IS, Situational Assessment (SA)	ESF #5	Critical Infrastructure Crisis Action Team	Provides integrated situational awareness to DHS leadership and critical infrastructure partners to reduce risk, prevent damage and enable rapid recovery of critical infrastructure assets caused by natural disaster, attack, or other emergency.
Mass Care (MC)	ESF #6	Prepare Sites for Temporary Housing Sites	Conducts site preparations for the placement of temporary housing (mobile or modular homes).
MC	ESF #6	Department of Housing and Urban Development, Federal Operations Support	
MC	ESF #6	Temporary Roofing PRT	Coordinates for the distribution of temporary roofing options.
MC	ESF #6	Temporary Housing (Haul and Install)	Conducts hauling, installation, and recovery of manufactured housing units or other readily fabricated dwellings; performs environmental assessment; and performs staging area operation and site restoration.
MC	ESF #6	Temporary Housing (Site Design)	Provides design, site development, and construction, including installation of utilities at manufactured housing unit group sites.
MC	ESF #6	Temporary Housing—COTR/Technical Monitor Support to FEMA IA-TAC—Post-declaration	Provides planning support, assists in IA-TAC orders, and provides continued contract administration and management support.
MC	ESF #6	Temporary Housing Team	Provides a wide range of temporary housing assistance, in coordination with FEMA, to fill the needs of survivors. One type of assistance is technical assistance to FEMA through the review of plans and specifications of group mobile home and manufactured housing unit sites, and coordination of environmental compliance; provides plans, specifications, and construction-management activities associated with providing emergency temporary housing.

Core Capability	ESF Support	Capability	Description
MC	ESF #6	Temporary Roofing Team	Assists local, state, tribal, territorial, and insular area requests for support in coordination with FEMA, providing temporary Blue Plastic Roofs to residences to prevent additional damage after a windstorm. The capabilities extend from Technical Expertise and Assistance through complete management of a Temporary Roofing Mission, including the scoping, procurement, and installation of temporary roofing repairs.
MC	ESF #6	Field Deployment	Supports activities including shelter, feeding, donations and volunteer management, warehousing, nonhazardous disaster debris removal for access and functional needs populations, tarps under the approved USACE program, chainsaw work, call centers, volunteer base camp, needs assessment, and long-term recovery committees.
MC, Planning (P)	ESF #6	Temporary Housing	Conducts emergency planning and/or assessment of potential sites for housing.
MC, P	ESF #6	Temporary Housing— COTR and/or Technical Monitor Support to FEMA IA-TAC	Provides pre-event planning, assists in preparing task orders, and contracts administration support.
MC, P	ESF #6	Mass Care Planning Support Personnel	Provides personnel to assist with planning and reporting in support of mass care activities.
MC, PS	ESF #6	Temporary Roofing PRT	Implements the Advanced Contracting Initiative or other contracting processes to provide temporary roofing.
Mass Search and Rescue (MS)	ESF #9	National Activation (Pre-/Post-declaration)	Provides air and ground lifesaving SAR capability, apart from those operations in which USCG has SAR responsibilities in the National SAR Plan.
MS	ESF #9	NPS ESF #9, Department of the Interior Force Protection—FEMA US&R Task Forces (Federal Operations Support)	Provides field SAR teams and personnel in support of SAR operations.
MS	ESF #9	NPS ESF #9, Department of the Interior-NPS Single Boat & Operator Support (Federal Operations Support)	Provides motorized boats for SAR operations.

Core Capability	ESF Support	Capability	Description
MS	ESF #9	SAR—Boating Crews	Provides boating crews to navigate flood waters in support of SAR operations.
MS	ESF #9	DoD ESF #9, Rotary Wing Lift (Medium) for SAR (Federal Operations Support/Direct Federal Assistance/Technical Assistance)	Provides SAR operation support with medium-lift rotary wing aircraft.
MS	ESF #9	US&R Response System	Capabilities include reconnaissance to assess damage and needs; assessment and shut-off of utilities to houses and buildings; physical SAR operations in damaged and collapsed structures; hazardous materials surveys and evaluations; structural and hazard evaluations of buildings; operations in known or suspected weapons of mass destruction (WMD) events; emergency medical care for entrapped casualties, task force personnel, and search canines; stabilization of damaged structures, including shoring and cribbing operations.
MS	ESF #5	Contract Security Officers	Provides security officer support.
MS	ESF #9	US&R Support to ESF #9	Provides US&R structural specialist advance strike team to accompany the FEMA US&R IST Engineering Cell.
MS	ESF #9	US&R Support to ESF #9	Provides structural specialist and equipment to coordinate and integrate SAR resources.
Operational Communications (OC)	ESF #2	25-User Communications Package (Fixed Site Teams)	Provides voice, data, and video communications support at fixed locations for persons who provide coordination of initial assessment teams and other first responders. Capability for Internet reach-back.
OC	ESF #2	75-User Communications Package	Provides voice, data, and video communications support at fixed locations for persons who provide coordination of initial assessment teams and other first responders. Capability for Internet reach-back.
OC	ESF #2	Communications Support to First Responders	Dedicates users with mobile voice and data communications for initial entry assessment and coordination of initial response.
OC	ESF #2	Domestic Emergency Support Team	Interagency subject matter experts who support the FBI On-scene Commander.

Core Capability	ESF Support	Capability	Description
OC	ESF #2	Project Roll Call	Conducts assessment of the impact to public safety and the Emergency Alert System in the affected area and identify all surviving and non-working systems. The Federal Communications Commission will analyze radio spectrum management and integrate and correlated spectrum analysis results with radio license data and coordinate with IMAT and DEC Division.
OC	ESF #2	Spectrum Management and Coordination	Coordinates with Project Roll Call, provides radio frequency spectrum analysis, investigates and resolves interference issues, provides frequency coordination for first responders, and provides special temporary authorizations and waivers to assist in interoperability and mutual aid issues.
OC	ESF #2	MERS	Provides rapid augmentation of communication capabilities in disaster areas.
OC	ESF #2	Office of Cybersecurity and Communications	24/7 government/industry watch assists in initiation, coordination, restoration, and reconstitution of national security or emergency preparedness telecommunications services or facilities under all conditions of crisis or emergency; vulnerability assessments (e.g., satellite vulnerability, interconnection sites); liaison support to ESF #2 response functions; Telecommunications Service Priority: establishes system of priorities for provision/restoration of communication circuits to ensure connectivity for national security/emergency personnel users; Government Emergency Telecommunications Service/Wireless Priority Services: provide prioritized queuing for users on the public switched telephone network to support communications during periods of severe network congestion
OC	ESF #2	DHS—Office of Cybersecurity and Communications — Regional Coordination Program	Office of Emergency Communications Regional Coordinator (RC) in Region with federally-declared disaster may be deployed to support the Office of Cybersecurity and Communications (support disaster emergency communications response efforts at the JFO, RRCC, and EOC in coordination with local, state, tribal, territorial, insular area, and Federal representatives.
OC	ESF #2	Regional Coordination Program	May be deployed to support disaster emergency communications response efforts.

Core Capability	ESF Support	Capability	Description
OC	ESF #5	Deployable Tactical Operations Systems	Provides operations with initial operating facilities and emergency communications to support command and control.
OC	ESF #2	Transportable Communications Central	Mobile communications teams to support first responders/damage assessments. Specifically, satellite phones, VHF, HF, UHS, LOS radios, 800 MHz Circuit, Non-secure/secure radio capability, non-secure data, voice over Internet protocol.
OC	ESF #2	Radio Starter System	Telecommunications requirement and personnel.
Operational Coordination (OCD)	ESF #5	FCOs	Cadre is trained and credentialed to response as Type I, II, and III leaders for operational response to Presidential Declaration/Emergency operations and national and regional level exercises. Provide support to state government officials in coordination with all Federal agency response capabilities.
OCD	ESF #5	FEMA Operations Center	A continuously operating entity of DHS that is responsible for monitoring emergency operations and promulgating notification of changes to Continuity of Government Condition status.
OCD	ESF #5	NOC	Working in concert with NOC elements NOC Watch, National Watch Center/NRCC, NICC, Intelligence Watch and Warning, and NOC Planning Element, serves as the principal operations center for DHS and provides situational awareness and a common operating picture for the entire Federal Government and for local, state, tribal, territorial, and insular area governments, as appropriate, in the event of a natural disaster, act of terrorism, or other disaster. The NOC ensures that critical terrorism and disaster-related information reaches government decision makers.
OCD	ESF #5	IMAT	Rapid response teams to support initial establishment of unified command and provide situational awareness.
OCD	ESF #5	Mobile Communications Office Vehicle	Provides workstations and conference space for 20–25 people. Operations and communication center. Reception, kitchen, and restroom facilities. Self-contained generators. Telephones and computers with voice and data switch. Local and wide area networks. Video teleconferencing. HF/VHF/UHF radios with telephone interface.

Core Capability	ESF Support	Capability	Description
OCD	ESF #5	National IMAT	Coordinates and integrates inter-jurisdictional response in support of the affected state(s) or U.S. territory(s). National IMATs provide initial situational awareness for Federal decision makers, and support the initial establishment of a unified command. IMATs provide multi-disciplinary needs of emergency management and may include members from the inter-agency community.
OCD	ESF #5	NRCC	Coordinates Federal response efforts at the National level by maintaining connectivity with FEMA RRCCs, Federal departments and agencies, Federal Executive Boards, Federal operations and coordination centers, nonprofit organizations; and private sector businesses. The NRCC provides situational awareness that is crucial to determining the levels and types of Federal support that may be required and assist decision makers at all levels of government.
OCD	ESF #5	Regional IMAT	Supports the establishment of a unified command and provides situational awareness for Federal and state decision makers crucial to determining the level and type of immediate Federal support that may be required.
OCD	ESF #5	Industrial Control System-Cyber Emergency Response Team	Provides onsite incident response, free of charge, to organizations that require immediate investigation and resolution in the event of a cyber incident. The Industrial Control System-Cyber Emergency Response Team is able to provide mitigation strategies and assist asset owners/operators in restoring service, and provide recommendations for improving overall network and control systems security.
OCD	ESF #5	Deployable Operations Group	Develops and strengthens incident management capabilities.
OCD	ESF #5	USACE Team and Assistant Team Leaders	Deploys to JFO, RRCC and NRCC to shape USACE missions and support in coordination with FEMA and other departments and agencies.
OCD	ESF #5	Coast Guard IMAT	Available to deploy anywhere within the Coast Guard area of responsibility or in support of an interagency request (e.g., Olympics or other National Special Security Events [NSSE]).
OP	ESF #13	National Response Team	Assists in the investigation of significant explosives and fire incidents.

Core Capability	ESF Support	Capability	Description
OP	ESF #13	Border Patrol Search, Trauma, and Rescue Team	Deploys to areas of concern and provides assistance to those in distress. Responds to emergency medical, trauma management, and national incident response as appropriate.
OP	ESF #13	Border Patrol Tactical Unit	Mobile training teams able to support counterterrorism, counter narcotics, National Security nexus, direct enforcement, special reconnaissance, and border assessments.
OP	ESF #13	Force Protection for SAR Personnel	Armed Federal Officers and Agents trained to support SAR techniques, concepts, and supporting skills.
OP	ESF #13	Force Protection Non- US&R	Armed Federal Officers and Agents trained to perform Force Protection and Security duties.
OP	ESF #13	Law Enforcement SAR Canine Team	Law Enforcement officers with trained canines are able to support SAR tracking and trailing techniques.
OP	ESF #13	National Special Response Team Mobile Response Team	Supports DHS/FEMA during response operations and NSSEs.
OP	ESF #13	National Canine Program	Detects concealed humans, various illegal controlled substances and contraband concealed within vehicles rapidly with less inconvenience to the general public.
OP	ESF #13	National Special Response Team	Specialized response team trained and tactically equipped for long, rapid deployment to emergency and/or unusual law enforcement situations, requiring special tactics and techniques beyond the reasonable operational capabilities of U.S. Customs and Border Protection officers at land, air, and sea Points of Entry.
OP	ESF #13	Horse Patrol Units	Provides mobile law enforcement response to threats in remote locations and the ability to patrol most remote areas that are inaccessible to vehicles.
OP	ESF #13	Border Enforcement Security Task Force (BEST)	BEST takes an all-threats approach to border-related crime. These threats include narcotics smuggling, financial crime, human trafficking, illegal import/export, bulk cash smuggling, the violation of intellectual property rights, and identification and benefit fraud, as well as state and local, and foreign crimes that are committed by TCOs. BEST targets these organizations from all perspectives, utilizing the expertise, authority, and the full-range of capabilities of its partner departments and agencies.

Core Capability	ESF Support	Capability	Description
OP	ESF #13	Canine—Explosive Detector Dog Team	Conducts searches for a variety of explosive materials on or near building exteriors, parking lots, office areas, vehicles, materials, packages and persons in and around Federal facilities. Provide mobile and effective capabilities for the protection of life/property through the provision of a strong, visible, and psychological deterrence against criminal and terrorist threats. Provide immediate and specialized response to bomb threats/unattended packages or other dangerous items.
OP	ESF #13	Federal Protective Service Crisis Response Team	Provides support to manage crowd control, perimeter security, patrol, protection, and similar missions.
OP	ESF #13	Contract Security Officers	Provides physical security support.
OP	ESF #13	Crisis Negotiation Teams	Crisis Negotiation Teams are trained to assist Special Response Teams and Disturbance Control Teams (DCTs) in a response to a disturbance, riot, or other security incident.
OP	ESF #13	Immigration and Customs Enforcement (ICE) Special Response Teams and DCTs	ICE Special Response Teams and DCTs are specially trained and equipped to provide support for disturbances, riots, tactical events, and other security incidents in support of ESF #13/surge requirements.
OP	ESF #13	Document and Benefit Fraud Task Force	The Document and Benefit Fraud Task Force combines a variety of law enforcement tools and authorities to achieve focused, high-impact criminal prosecutions and financial seizures. Task Force investigations relate to immigration benefit fraud, other fraud schemes, identity theft schemes, and document fraud.
OP	ESF #13	High Intensity Drug Trafficking Area (HIDTA)	HIDTA personnel have access to HIDTA's intelligence and investigative support centers which help identify new targets and trends, develop threat assessments, de-confliction, and manage cases.
OP	ESF #13	Polygraph Operations	Conducts criminal polygraph response on short notice.
OP	ESF #13	Rapid Response Teams	Self-contained, rapid deployment groups with tactical, basic medical and communications assets. Used to secure ICE facilities, assist DHS/ICE personnel, prepare impacted area for the arrival of additional equipment and personnel, and perform ESF #13 missions.

Core Capability	ESF Support	Capability	Description
OP	ESF #13	Undercover Operations Unit	Capable of providing human resources in support of HSI investigations such as trained and certified operatives, identification of special agents and task force officers with unique or specialized skill sets (e.g., foreign language, industry experience, professional certifications), as well as covert assets (e.g., physical storefronts/warehouses, proprietary businesses, commercial Web sites, vehicles, vessels, aircraft).
OP	ESF #13	Law Enforcement Strike Team—Field Operations	Provides law enforcement surge support.
OP	ESF #13	Regional Activation (Pre-/Post-declaration) ESF #9	Activation of the organization to support RRCC operations.
OP	ESF #13	Federal Air Marshal Service (FAMS)	Ability to rapidly deploy Federal Law Enforcement Officers (FLEO) worldwide with minimal notification. Critical Incident Response teams offer organization-wide support services in response to any critical incident such as an employee suicide, shooting, or other line of duty exposure to traumatic events. FAMS maintains robust cadres of FLEOs who are trained and certified EMTs capable of deploying world-wide with minimal notification. International Air Marshal Program conducts training, education, outreach, and liaison efforts that encourage development/maturity of foreign air marshal programs.
OP	ESF #13	FBI Special Agents	Federal law enforcement and law enforcement management of law enforcement response operations.
OP	ESF #13	FBI Electronic Technicians	Supports FBI communications under multiple platforms.
OP	ESF #13	Joint Vulnerability Assessment Team	Conducts security vulnerability assessments on U.S. commercial airport critical infrastructure. The team identifies security vulnerabilities, analyzes data, and provides recommended countermeasures to mitigate vulnerabilities.
OP	ESF #13	Man-portable Air Defense Systems (MANPADS) Vulnerability Assessment Team	Conducts MANPADS Vulnerability Assessments at high risk U.S. commercial airports, provides assistance with MANPADS mitigation plans for all U.S. airports and provides MANPADS awareness training to first responders. The team also conducts MANPADS assessments and training at foreign airports upon the request of a host nation.

Core Capability	ESF Support	Capability	Description
OP	ESF #13	National Deployment Force	Rapid response teams of Transportation Security Officers and Behavioral Detection Officers who are deployable as needed; fully trained Transportation Security Officers and Behavioral Detection Officers who provide DHS/Transportation Security Administration with a force capable of augmenting surges in passenger and baggage screening operations in a timely and effective manner; provide screening support for seasonal demands, special security events, and other circumstance requiring greater number of personnel than is normally available to a Federal Security Director.
OP	ESF #13	National Explosives Detection Canine Team	Transportation Security Administration-certified National Explosives Detection Canine Teams search narrow- and wide-body aircraft, terminals, luggage, vehicles, freight, mass transit rail and buses, and maritime vessels. National Explosives Detection Canine Team is currently training 48 Passenger Screening Canine Teams, as well as procuring 42 Passenger Screening Canine Teams.
OP	ESF #13	Office of Law Enforcement/FAMS Federal Air Marshal Team, Deployment	Conducts transportation-security related law enforcement functions in support of evacuation operations or surge requirements.
OP	ESF #13	Transportation Security Advanced Team and Transportation Security Support Team	Rapid deployment and ability to support Federal Security Director's operations within 24 hours; screening of passengers and their baggage for prohibited items before entry into the sterile areas of U.S. airports.
OP	ESF #13	Visible Intermodal Prevention and Response Program	Supplementation of existing security resources; provide deterrent presence and prevention capabilities, and introduce element of unpredictability to disrupt potential terrorist planning activities. Operations are planned using a risk-based methodology that considers threats, vulnerabilities, and consequences that is applied in partnership with local transportation security and law enforcement stakeholders.
OP	ESF #13	Maritime Law Enforcement	Provides security forces for rescue, recovery, and evacuation operations.
P	ESF #5	Mobile Response Team	National rapid deployment asset which provides additional operational capabilities of U.S. Customs and Border Protection Officers/Agents at and between land, air, insular, and littoral Points of Entry and borders.

Core Capability	ESF Support	Capability	Description
P	ESF #5	Response Planning	Assists in response planning and operations with state natural resource and environmental offices, performs survey work for temporary housing plans to identify staging area that mitigate impacts on possible archeological sites, and ensures threatened and endangered species or ecosystems are not negatively impacted.
P	ESF #5	Joint Mitigation and Individual Public Assistance Preliminary Damage Assessment Teams	Collects damage information to determine program eligibility for disaster declarations. The team supports local law enforcement and acts as the lead Federal Agency along with local, state, tribal, territorial, insular area, and/or private entities in the affected disaster areas. Other responsibilities include: coordinate with local, state, tribal, territorial, insular area, and/or private officials; provide initial reports on the extent of impact; make initial contacts with impacted communities; direct media and individual inquiries to the appropriate support entity.
P	ESF #5	Geospatial Support Team	Provides geospatial products for emergency incidents, special security events, and facility security assessments. Products are used for situational awareness and planning in the infrastructure protection mission area.
P	ESF #5	NICC	Watch/steady-state: maintains/shares ongoing operational and situational awareness of the Nation's infrastructure assets. When an incident occurs: the Critical Infrastructure Crisis Action Team component of the NICC becomes the Office of Infrastructure Protection's focal point for incident management. It provides integrated situational awareness, assessment and analysis, decision support, operations management and future operations planning.
P	ESF #5	Protected Critical Infrastructure Information	Validates information submitted for protection, disseminate it to requested recipients, and store it within searchable databases for other users. Information submitted in an emergency can be validated under expedited procedures. Protected Critical Infrastructure Information also oversees access on the part of users.
Public Health, Healthcare, and Emergency Medical Services (HM)	ESF #8	Applied Public Health Team	The primary areas of Applied Public Health Team activities and reporting include epidemiology surveillance, preventive (medical) services delivery (e.g., disease prevention, vaccinations, laboratory information, health information), environmental public health (e.g., air, water, wastes, vectors, food, safety, shelter).

Core Capability	ESF Support	Capability	Description
HM	ESF #8	Rotary Wing Medical/Casualty Evacuation	Provides aircraft transportation for medical and/or personnel evacuation.
HM	ESF #11	Animal Disease Control (USDA)	Provides personnel to ensure control against the spread of animal disease agents; maintain supervisory span of control for deployed veterinary personnel and assistants; and conduct emergency quarantine or verification activities that include sampling of animals or carcasses thereof.
HM	ESF #11	APHIS National Plant Diagnostic Network and National Animal Health Laboratory	Supports animal and plant disease and pest response.
HM	ESF #11	APHIS National Veterinary Stockpile	Provides critical countermeasures and supplies to address animal disease outbreaks.
HM	ESF #8	Emergency Management Teams	Law enforcement officers trained in Critical Incident Stress Management and the distribution of medications during the response to a WMD incident.
HM	ESF #8	Critical Incident Response Team	Provides peer-level support to U.S. Customs and Border Protection operational component personnel and aids victims involved in traumatic events.
HM	ESF #8	Rotary Wing Medical Patient Evacuation	Supports medical patient evacuations through the use of rotary wing aircraft and personnel.
HM	ESF #8	Temporary Medical Treatment Facilities	Provides temporary medical treatment facilities that are equivalent to those established by HHS.
HM	ESF #8	Theater Patient Movement and Airlift	Provides aero-medical evacuation forces and enablers for patient movement.
HM	ESF #8	Rapid Response Team	A partnership between the Food and Drug Administration and state food regulatory partners to conduct integrated, multiagency responses to all-hazards food and feed emergencies, and to streamline foodborne illness investigations.

Core Capability	ESF Support	Capability	Description
HM	ESF #8	Advance Logistics Reception Team Push Package	Provides reception, staging, and onward movement of advance logistics and forward medical assets. Advance Logistics Reception Team package consists of one Logistics Team, two DMATs on alert status, two DMAT caches, two DMAT pharmacy caches, two DMAT field resupply caches, one Incident Response Coordination Team (IRCT) cache; two Strike Team kits, and four Emergency Medical Record kits.
HM	ESF #8	Behavioral Healthcare	Provides mental health and substance abuse support services to disaster casualties, their families, and rescue response workers. Mental Health teams will conduct screening and assessment of community needs relevant to mental and behavioral conditions and the provision of supportive and educational interventions such as psychological first aid to incident casualties, survivors, and responders.
HM	ESF #8	DMAT	A nationwide medical response system that supplements state and local emergency resources during disaster or major emergencies.
HM	ESF #8	DMORT	Conducts mobility morgue operations; forensic examination; DNA acquisition; remains identification; search and recovery; scene documentation; medical/psychological support; embalming/casketing; victim identification center; ante mortem data collection; postmortem data collection; records data entry; database administration; personal effects processing; coordination of release of remains; provides communications equipment; safety officers and specialist.
HM	ESF #8	DMORT—WMD	Provides victim identification and mortuary services in support of a WMD incident.
HM	ESF #8	Disaster Portable Morgue Unit Team	The Disaster Portable Morgue Unit contains a complete morgue, with designated workstations and prepackaged supplies.
HM	ESF #8	Emergency Prescription Assistance and Medical Equipment Replacement Program	Provides pharmaceutical supplies, limited durable medical equipment and personnel sufficient to administer the Emergency Prescription Assistance Program.

Core Capability	ESF Support	Capability	Description
HM	ESF #8	Environmental Health—Hazard Identification and Control Measures	Conducts evaluations of environmental conditions and impacts on human health, and where possible, work to initiative public health interventions and control measures to lessen impacts in the affected area. Areas of consideration include potable water and ground water issues; wastewater and human waste disposal; sanitation for emergency shelter operations; toxin abatement; and vector control.
HM	ESF #8	Victim Information Center	Supports the collection of victim information and conducts death notifications.
HM	ESF #8	Federal Medical Stations	Modular and rapidly deployable to provide a platform for the care of displaced persons who have non-acute, health-related needs that cannot be met in a shelter for the general population during an incident. The stations come in either 50-bed or 250-bed configuration and are stocked with sufficient supplies to care for patients for a minimum of 3 days, depending on configuration.
HM	ESF #8	Food and Product Safety Inspection	Addresses immediate and short-term issues that impact whether food, drugs, biological, and medical devices that have been impacted by the incident are appropriate for use.
HM	ESF #8	Federal Operations Support	Personnel to serve as SMEs for the purpose of public health assessments, support to access and functional needs populations, and other entities as needed.
HM	ESF #8	Technical Assistance	Provides technical assistance and scientific expertise for the development of necessary health actions/precautions for the public health response. Specifically, resource coordination; food safety and inspections; and environmental health.
HM	ESF #8	IRCT	Based upon Incident Command System doctrine, Ops/Logs/Plans construct
HM	ESF #8	International Medical/Surgical Response Team	The International Medical/Surgical Response Team is equipped and trained to provide surgical care in and outside the continental United States.
HM	ESF #8	Medical Care and Support	Provides medical care for sheltered populations; mobile medical teams with go-bags; medical equipment and supplies; deploy the Strategic National Stockpile; deploy assets from the Department of Veterans Affairs (VA) and DoD in support of intermediate medical operations and resupply; blood availability monitoring, supply, and distribution.

Core Capability	ESF Support	Capability	Description
HM	ESF #8	Mental Health Teams	Provides mental health and substance abuse support services to disaster casualties, their families, and rescue response workers. Mental Health teams will conduct screening and assessment of community needs relevant to mental and behavioral conditions and the provision of supportive and educational interventions such as psychological first aid to incident casualties, survivors, and responders.
HM	ESF #8	Mortuary Operations Assistance (Non-NDMS)	Provides assistance in performing victim identification and mortuary services in support of state/local medical examiners. Actions may include the establishment of temporary morgue facilities; collecting and managing antemortem and postmortem data to support victim identification in accordance with forensic standards; and processing and preparing the deceased for their return to next-of-kin or alternate caretaker.
HM	ESF #8	NDMS, Patient Movement	Provides medical evacuation support of seriously ill or injured patients from casualty collection staging areas. Specifically, transportation assets (airlift, rotary wing medevac/lift support, and ground), medical regulation assistance and patient tracking support; en-route medical care; medical personnel movement; medical logistics resupply; patient reception operations; and Federal coordination centers.
HM	ESF #8	DOC/National IST	The primary areas of DOC/National IST activities and reporting include continual event needs assessment, support and direction for incoming response assets, coordination of deployed field assets, onsite incident management, and response asset health and safety.
HM	ESF #8	NDMS (includes DMAT, National Veterinary Response Team, DMORT)	NDMS capabilities include primary and acute care, mass casualties triage, initial resuscitation and stabilization, advanced life support, and preparing the sick or injured for evacuation; veterinary medical services for service and companion animals; mortuary assistance to recover, identify, and process deceased casualties; mass casualty decontamination; medical triage following chemical, biological, nuclear and radiological events.

Core Capability	ESF Support	Capability	Description
HM	ESF #8	U.S. Public Health Service	Provides personnel to augment and assist local, state, tribal, territorial, and insular area health authorities to mitigate immediate or short-term negative health impacts from the disaster.
HM	ESF #8	Regional ISTs	The primary areas of Regional IST activities and reporting include rapid event needs assessment; support and direction for incoming response assets; liaison with local, state, tribal, territorial, and insular area officials; onsite incident management; and response asset health and safety.
HM	ESF #8	Strategic National Stockpile	A repository of antibiotics, chemical antidotes, antitoxins, vaccines, antiviral drugs and other lifesaving medical materiel designed to supplement and resupply state and local public health agencies in the event of an emergency.
HM	ESF #8	U.S. Public Health Service Commissioned Corps Teams-Rapid Deployment Force	Conducts community outreach and assessments, among other functions.
HM	ESF #8	Veterinary Medical Support (Non-NDMS)	Deploys veterinary teams to support ESF #6 and ESF #11 authorities to evaluate, make recommendations, and provide assistance to temporary shelters and existing veterinary clinical care facilities; assist ESF #11 in veterinary medical assistance for ameliorating animal disease and care for research animals; deploy veterinary public health surveillance teams to rapidly determine and report event related mobility, mortality, and environmental exposures of service and companion animals to the local incident command, and recommend treatment and mitigation; assist ESF #11 to protect the health of livestock, companion animals, and service and assistance animals by ensuring the safety of the manufacture and distribution of foods and drugs given to animals used for human food production, as well as companion animals.
HM	ESF #8	Emergency Management Group	Operates from the Secretary of Health and Human Services' Operations Center and coordinates the overall national ESF #8 response for the HHS Assistant Secretary for Preparedness and Response.

Core Capability	ESF Support	Capability	Description
HM	ESF #8	Services Access Team	The primary areas of Services Access Team activities and reporting include needs assessment, plan development/cultural sensitivity, advocating/connecting, clinical care coordination, continuity/transition management, psychosocial management, reintegration, and confidentiality assurance.
Public Information and Warning (PIW)	ESF #15	Media Assessment Team	Assists in local, state, tribal, territorial, and insular area media-viability assessments.
PIW	ESF #15	Integrated Public Alert and Warning System	Integrated set of services and capabilities that enable local, state, and Federal authorities to provide alerts and warnings.
PIW	ESF #15	Personal Localized Alerting Network	Allows mobile devices to receive geographically-targeted messages alerting them to imminent threats.
PIW	ESF #15	USCG Public Affairs- SMEs	Supports the RRCC or JFO and/or others to provide technical advice on USCG mission activities.
P	ESF #5	Local Government Liaison	Supports the Federal team and provide assistance to local governments in planning for response and recovery mission execution.
PS	ESF #7	MCC	Plans, coordinates, schedules, and tracks transport of resources (supplies, equipment, teams and personnel) necessary for support to incident operations.
PS	ESF #5	Logistics PRT	Provides event-specific planning to include resource tracking, receiving, warehouse management, issuing, equipment operations and maintenance, and property accountability of USACE and FEMA resources in support of Federal operations.
PS	ESF #5	Deployable Tactical Operations System	Provides operations with initial operating facilities and emergency communications to support command and control.
PS	ESF #5	Recovery Field Office Operations	Funding to lease space for Recovery Field Offices.
PS	ESF #7	National Commodity Team	Provides commodities such as bottled water and packaged ice in the aftermath of disasters to the state and local governments for distribution to the casualties. The distribution of these items to the public is a local responsibility in coordination with the state, and is a labor intensive operation. To help support the local effort we offer the planning guidance as well as technical assistance.

Core Capability	ESF Support	Capability	Description
PS	ESF #7	Logistics PRT support to FEMA logistics	Supports the Federal team and provide assistance to local governments in planning for response and recovery mission execution.
PS	ESF #7	International Coordination Support Annex, International Assistance System Support	Provides policy, operational, and logistical support for the integration of foreign assistance into domestic response operations.
PS	ESF #7	Acquire Federal Operational Staging Area	Establishes a Federal Operational Staging Area to support forward distribution of supplies/equipment within an affected area.
PS	ESF #7	Acquire Mobilization Center	Provides a Mobilization Center to support forward distribution of supplies/equipment to affected area.
PS	ESF #6	Communications Cache Support, Shelter Items	Provides available resources (e.g., cots, blankets, sleeping bags) for shelters.
PS	ESF #7	Federal Teams Staging Facility	Provides a location for the placement of Federal Staging Facilities.
PS	ESF #7	Fuel Distribution Points—Ground Vehicle	Provides support for the conduct of retail fuel distribution operations at different points.
PS	ESF #7	Fuel Distribution Points—Military Rotary Wing Aircraft	Provides support for retail fuel supply operations at airfields or other locations through the use of military rotary wing aircraft.
PS	ESF #7	ISB	The location for the forward distribution of supplies and/or equipment.
SA	ESF #5	Aerial Imagery	Provides aerial imagery to include still photography, downloadable video, streaming video, in-text flight imagery and other information as needed.
SA	ESF #5	Full Motion Video Capability	Provides full-motion video for incident awareness and assessment.
SA	ESF #5	Hurricane Liaison Team	Provides immediate and critical storm information to government agency decision makers at all levels to help them prepare for their response operations, which may include evacuations, sheltering, and mobilizing equipment.

Core Capability	ESF Support	Capability	Description
SA	ESF #5	National Watch Center	National teams of specialized equipment and personnel, capable of deployment. Deployments are tailored to meet specific emergency or special event response requirements. The FEMA National Watch Center includes the following capabilities: satellite phones; Washington Area Warning and Alert System, Critical Infrastructure Warning Information Network, High Frequency to communicate with EOCs, non-secured phones and video-teleconferencing; secure phones and secure video teleconferencing.
SA	ESF #5	NOC	Working in concert with NOC elements NOC Watch, National Watch Center/NRCC, NICC, Intelligence Watch and Warning, and NOC Planning Element, serves as the principal operations center for DHS and provides situational awareness and a common operating picture for the entire Federal Government and for local, state, tribal, territorial, and insular area governments, as appropriate, in the event of a natural disaster, act of terrorism, or other disaster. The NOC ensures that critical terrorism and disaster-related information reaches government decision makers.
SA	ESF #5	Geospatial Intelligence US&R Task Forces Support	Provides geospatial intelligence support for US&R operations.
SA	ESF #5	JFO Geospatial Intelligence Analytical Support	Provides geospatial intelligence support to the JFO Planning Section.
SA	ESF #5	National Geospatial Intelligence Agency (NGA) ESF #5, Regional Geospatial Intelligence Analytical Support (Federal Operations Support)	Provides geospatial intelligence support to the RRCC.

Core Capability	ESF Support	Capability	Description
SA	ESF #5	NGA ESF #5, Rapid Needs Assessment Geospatial Intelligence Analytical Support (Federal Operations Support)	Provides geospatial intelligence support for the FEMA Regional Rapid Needs Assessment Team.
SA	ESF #5	DHS Office of Cyber and Infrastructure Analysis— Incident Risk Analysis Cell	Production of analytical products such as an Infrastructure Impact Assessment, Office of Infrastructure Protection Note, or an In Response to Your Question to address requests for information/requests for analysis directed from the White House, Secretary, and other DHS senior leadership.
SA	ESF #5	NWS ESF #5, Deploy NWS Meteorological and Hydrological On-site Expertise (Federal Operations Support)	Meteorologist for meteorological and hydrological on-site expertise, coordination, and analysis.
SA	ESF #5	Remote Sensing/GIS PRT	Deploys the remote sensing/GIS resources to include advising, assessing, and coordinating remote sensing/GIS needs to include mapping, modeling, or imagery.
EH	ESF #5	CBRN Response Enterprise	Provides enhanced lifesaving (decontamination, emergency medical and technical search and rescue) support as well as command and control, CBRN assessment, surgical, security, engineering, logistics, transportation, aviation lift, and both ground and air evacuation.
EH	ESF #11	Conservators	Assists with records recovery and stabilization of vital records.
EH	ESF #11	Museum Emergency Response Team	Supports the protection of natural and cultural resources and historic properties.
OP	ESF #13	National Fugitive Operations Program-Fugitive Operations Teams	Highest priority is placed on cases involving aliens who pose a threat to national security and community safety, including members of transnational street gangs, child sex offenders, and aliens with prior convictions for violent crimes.

Core Capability	ESF Support	Capability	Description
EH, OP	ESF #10	Chemical Facility Anti- terrorism Standards (CFATS) Inspection Teams	The Chemical Security Inspectors are a compliance enforcement team primarily responsible for the inspection and enforcement of the CFATS program. Chemical Security Inspectors provide outreach and compliance assistance to the regulated community and key stakeholders and, when required, support the Protective Security Advisors during emergencies and exercises by providing CFATS subject matter expertise.
OP	ESF #13	Operation Shield Teams	Law Enforcement functions (e.g., covert penetration tests at entry control points; explosive detection sweeps of the perimeter using canine teams; performing visible deterrent activities; conducting law enforcement reporting as required) Conducts approximately two Operation Shield missions per week, per region.
IS, OP	ESF #13	Protective Security Advisors	Establishes relationships with local, state, tribal, territorial, insular area, and private sector critical infrastructure protection partners, coordinate training and assistance, support incident management, assist security planning for special events and NSSEs, facilitate communication between the private sector and DHS, and conduct vulnerability and security assessments on the Nation's most critical infrastructure.
IS	ESF #3	Temporary Emergency Power Team	USACE has the capability to provide local and state officials broad support for their unmet temporary emergency power needs. This support ranges from technical expertise/assistance through complete management of an emergency power mission including the procurement, installation and operation of generators.
MS	ESF #9	Helicopter Interdiction Tactical Squadron	Coast Guard Airborne Use of Force-Counter Drug. Helicopter Interdiction Tactical Squadron's deployment force package consists of a MH-65C helicopter, two AUF-CD qualified pilots, one embarked Coast Guard Precision Marksman, an M240B machine gun area fire weapon, and either an M110 or M107 precision fire weapon. This package is specifically designed to be used from a flight deck equipped Coast Guard cutter with embarked helicopter maintenance team and helicopter support kit.

Core Capability	ESF Support	Capability	Description
MS	ESF #9	Maritime Force Protection Unit	Each USCG Maritime Force Protection Unit provides the Patrol Commander, weapons operators, reaction vessel and screening vessel capabilities for each mission. The Patrol Commander has Tactical Command of escort surface vessels conducting the mission. The escort vessels enforce the Naval Vessel Protective Zone by determining temper and intent of other vessels in the vicinity of the transit route.
EH, OP	ESF #13	Maritime Security Response Team	Ready assault force able to conduct short-notice maritime response unilaterally or as part of an interagency task force. Capable of interdicting, boarding, verifying threats, and when required, engaging in offensive operations against hostile threats. Capable of tactical operations up to using modified Level B or C PPE during an entry with hazardous materials. The Maritime Security Response Team can pre-stage personnel and equipment for threats or actual events and actual releases in a hostile or potentially hostile environment.
OP	ESF #13	Port Security Unit	Each Port Security Unit can operate as either a law enforcement or non-law enforcement unit with well-armed Transportable Port Security Boats and shore side security teams. In addition to its operational and team missions, the units also provide: Maritime Law Enforcement, Logistics Coordination, Medical Services, and Humanitarian relief..
IS	ESF #3	Regional Dive Lockers: East, West, and Pacific	USCG capability for conducting diving operations to a max depth of 190 feet. Provides search, inspection, repair, recovery, and underwater ship husbandry.
IS, EH	ESF #10	Salvage Engineering Response Team	The USCG Salvage Engineering Response Team is comprised of naval architects trained to conduct technical analysis in the areas of vessel stability and structural integrity. The Salvage Engineering Response Team provides assistance to Coast Guard Field Units by performing numerous technical evaluations including: Assessment and analysis of intact and damaged stability; Hull stress and strength; Grounding and freeing forces; Prediction of oil/hazardous substance outflow; and Expertise on passenger vessel construction, fire protection, and safety.

Core Capability	ESF Support	Capability	Description
OP	ESF #13	Tactical Law Enforcement Team & Law Enforcement Detachments	USCG Tactical Law Enforcement Teams provide specialized Law Enforcement Detachments (LEDET) with advanced boarding capabilities. LEDETs provide maritime security response capability.
SA	ESF #8	National Biosurveillance integration Center	Enables the identification, characterization, localization, tracking, and dissemination or alerts on the occasion of biological incidents of national concern.
SA	ESF #8	BioWatch System	Provides detection of various biological agents within many of the Nation's largest metropolitan areas. These detection reports are called BioWatch Actionable Results (BA) and are shared with the NOC.
PS	ESF #7	Fuel Operations Bulk Fuel	The JFO initiates a 48- to 72-hour warning order via eTasker to activate the contractor. After this, an eTasker is initiated, requesting the commodity by type and quantity in gallons. This eTasker is sent to FEMA-LRC-Chief@dhs.gov, who determines the proper supply chain manager and forwards the request. The manager validates the request through the Logistics Management Center Chief and creates an order in the Trading Partner Management module of Logistic Supply Chain Management System for the States requirement. The Trading Partner Management order(s) is emailed to the DLA's Joint Logistics Operations Center at cat.hq@dla.mil.
PS	ESF #7	Responder Support Camp Operations	A large base camp can be established to support 301 to 2,000 disaster responders. The Region sends an eTasker to the FEMA-LRC-Chief@dhs.gov, who will in turn submit the eTasker to Logistics Operations Division Support Services Branch for sourcing action via RMG partner, FEMA Office of the Chief Procurement Officer. FEMA Office of the Chief Procurement Officer sends a Task Order Proposal Request to contractors for bids. Contractors have 24 hours to respond. Coordination occurs between the following entities: Regional Administrators, FCO(s), Office of the Chief Procurement Officer, Logistics/Resource Support Section.

Core Capability	ESF Support	Capability	Description
OCD	ESF #5	DHS Surge Capacity Force	The Surge Capacity Force is organized into four tiers. Tier 1: Disaster Reservists with FEMA credentials; Tier 2: Permanent Full-time Employees with FEMA credentials; Tier 3: Non- FEMA Credentialed, but NIMS-trained Permanent Full- or Part-time Federal Employees, and Tier 4: Non-FEMA Credentialed and Untrained Permanent Full- or Part-time Federal Employees.

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Annex E: Operational Communications

Purpose

The purpose of this annex is to describe the delivery of the Operational Communications core capability within the Response mission area. The Operational Communications core capability ensures the capacity for timely communications in support of security, situational awareness, and operations by any and all means available, among and between affected communities in the impact area and all response forces.

The Operational Communications (OC) critical tasks are as follows:

- **OC-Critical Task-1:** Ensure the capacity to communicate with both the emergency response community and the affected populations and establish interoperable voice and data communications between local, state, tribal, territorial, insular area, and Federal first responders.
- **OC-Critical Task-2:** Reestablish sufficient communications infrastructure within the affected areas to support ongoing life-sustaining activities, meet basic human needs, and transition to recovery.

Operational communications is the concept of operations for delivery and employment of the Federal Operational Communications core capability consistent with the missions identified in the Federal Interagency Operational Plan (FIOP). Operational communications includes the identification of Federal support organizations, capabilities, and teams with internal interoperable voice, video, and data systems and networks essential for effective disaster response and recovery operations.

Operational communications is the integrated interagency emergency communications means and modes used to support disaster response and recovery operations. The foundation of the Operational Communications core capability is the timely, dynamic, and reliable movement and processing of disaster information in a form that meets the needs of emergency management decision makers at all levels of government.

Interagency operational communications involves the integration of multiple local, state, tribal, territorial, insular area, and Federal agencies, each with their own systems and capabilities enacting a comprehensive strategy for deployment of interoperable systems.

The Operational Communications core capability provides mechanisms to enable the Operational Coordination core capability to receive information for decision-making and direct, organize, and provide strategic direction to response operations. It provides a means for exchanging information internally to response operations and externally with the public.

Situation

When communications are degraded or unavailable, then transmission of coordination, situational reporting, alerts, warnings, and public awareness information must be accomplished via organized Federal augmentation or restoration of operational communications in the affected area through access to primary, backup, and if possible, tertiary communications equipment and processes that are robust, reliable, and interoperable.

The delivery of operational communications through unity of effort is the most important principle driving response and recovery communications support operations. Horizontal and vertical information sharing ensures that all stakeholders are integrated and in sync with the needs of the state, tribal, territorial, and insular area jurisdictions.

Assumptions

General assumptions for the Response FIOP are identified in the base plan.

Mission

The Federal Interagency partners will ensure the capacity to communicate with the emergency response community and the affected populations; establish interoperable voice and data communications between local, state, tribal, territorial, insular area, and Federal responders; and reestablish sufficient communications infrastructure within the affected areas

Execution

Operational communications provides rapidly deployed capabilities to provide mission-essential communications connectivity in order to ensure critical information exchanges occur between key response and recovery emergency management entities.

Operational communications enables emergency managers to maintain unity of coordination and continuity of operations at critical times and places throughout catastrophic incident areas. Properly employed communications systems are the key to effective situational awareness, information management, and successful disaster support.

Mission planning and communications management are critical to successful execution of Federal interagency response and recovery support. Federal communications service providers must develop procedures that support interoperable, compatible, and interconnected field communications networks.

Local, state, tribal, territorial, insular area, and Federal operations plans should address the plan for employment of operational communications systems. Deployed systems and capabilities should be National Incident Management System (NIMS) compliant and meet the following mission support priorities:

- Support to survivors in communities as defined by the authority having jurisdiction
- Augmentation of local first responder communications
- Support to local, state, tribal, territorial, and insular area governments
- Federal response and recovery team communications
- Mobile and fixed disaster facilities and field infrastructure
- Support to state National Guard/Emergency Management Assistance Compact/mutual aid operations
- Federal-to-Federal Emergency Support Function (ESF) assistance
- Other support as deemed necessary by Federal Coordinating Officers (FCO).

Concept of Operations

Phase 1

Operational communications focuses on planning, training, exercising, and assessing communications capabilities should an incident occur. The goal is to connect who needs to communicate, when they need to communicate, in a field-expedient manner. This can only be achieved through planning, training, exercising, and coordination at all levels of government.

This is a continual process and encompasses public and private resources, plans, and procedures. Horizontal and vertical information sharing (pre-event) ensures that all stakeholders are integrated and in sync with the needs of the local, state, tribal, territorial, and insular area jurisdictions.

Situational awareness is crucial throughout incident response and recovery, but more so prior to deployment by providing realistic insight of known shortfalls, deficiencies, as well as the Governor's intent and priorities in the projected affected areas.

Shared situational awareness is attained through not only a unity of effort that is developed among stakeholders, but also through reporting that occurs at the level of local, state, tribal, territorial, insular area, and Federal governmental agencies; nongovernmental organizations (NGO); industry-essential service providers; other private sector partners; and individuals.

The Federal Emergency Management Agency (FEMA), as Primary Agency for ESF #2 (Tactical), has primary responsibility for operational communications and integrates not only internal FEMA assets, but also assets owned by other ESF #2 Federal supporting Support Agency, local, state, tribal, territorial, insular area, and private sector communications partners to ensure a single integrated operational communications management structure in the field.

Phase 2

ESF #2 identifies opportunities where the Federal Government can support critical communications providers' response efforts to restore vital communications assets and, when appropriate, facilitate the transfer of international technical and communications assets.

During response operations, the FEMA Regional Administrator may establish a Communications Unit at the regional headquarters to serve as the focal point for coordination during the initial phases of the event. The Regional Response Coordination Center (RRCC) Communications Unit is led by the Emergency Communications Unit Leader and is structured to coordinate in both the tactical and commercial communications support domains.

During incidents that impact a single state, tribe, territory, or insular area in the Region, the Regional Emergency Communications Coordinator (RECC) may consider deploying to the field. Field deployments of RECC personnel are only considered when it does not limit the RECC's ability to successfully coordinate and execute regional emergency communications responsibilities. Reasons for deploying include to:

- Affect direct coordination with state, tribal, territorial, and insular area counterparts
- Conduct first-hand damage assessments
- Hone field experience while operating as a Disaster Emergency Communications (DEC) Group Supervisor
- Conduct limited training of disaster workforce personnel.

Successful execution of immediate response operations depend upon the ability of Mobile Emergency Response Support (MERS) detachments to provide timely, accurate, and tailored operational communications to Federal response teams (e.g., Incident Management Assistance Team [IMAT], urban search and rescue) during all Response phases. When authorized, MERS detachments are deployed to provide rapid response communications. Key to the ability of MERS to provide effective communications support is the rapid deployment and integration of MERS Coordinator(s) into various field organizations. Once deployed, MERS establishes initial communications to support key nodes in the incident area.

The MERS Coordinator employs capability to augment regional resources and provide support to the FCO and all assets and entities under the FCO's authority. MERS communications systems are integrated with other emergency responder networks to provide operational communications, situational awareness, and critical links that connect Initial Operating Facilities (IOF), mobile disaster recovery centers, Joint Field Offices (JFO), MERS Operations Centers, RRCCs, jurisdictional Emergency Operations Centers (EOC), and other recognized command centers.

Operational communications and most essential information will normally flow from the incident level, through Federal response teams, to disaster facilities (e.g., FCOs) to regional operations and coordination centers, and ultimately to national-level decision makers. At the same time, decision makers, resource providers, and operations and coordination centers provide accurate, actionable, and relevant information to support incident operations using FEMA applications, systems, and networks.

FEMA deploys other Federal department and agency communications and information technology capabilities to support the sustained Federal response effort. Most of the communications infrastructure in the incident area is owned and operated by the private sector. As such, coordination with these entities is a primary focus of ESF #2 (Communications Restoration) and is crucial to success in any response, recovery, and whole community restoration effort.

Phase 3a

Operational Communications transitions to the National Disaster Recovery Framework's Infrastructure Systems Recovery Support Function to conduct long-term (30 days after the incident) activities to rebuild damaged communications infrastructure.

Coordinating Structure

Coordination of ESF support to the Operational Communications core capability is depicted in Figure E-1. Specific activities conducted by ESFs are detailed in the operational communications tasks below.

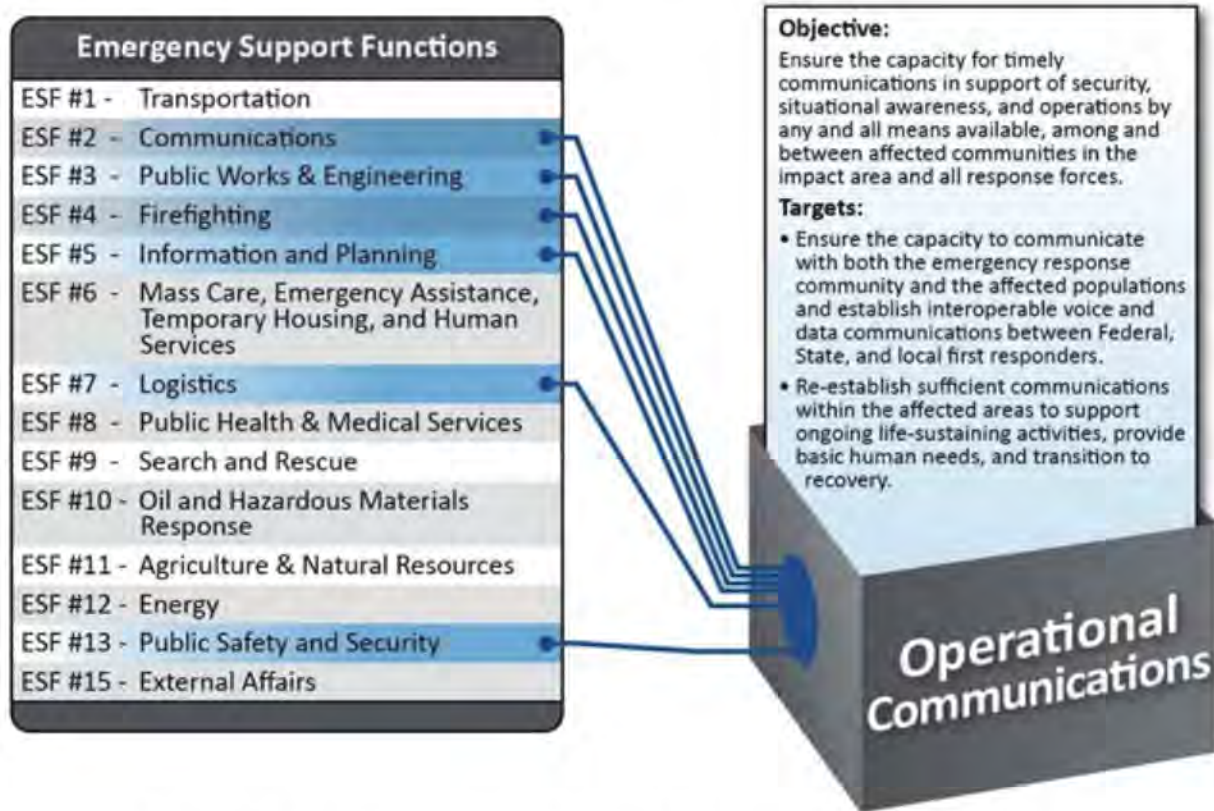


Figure E-1: Coordination of ESF Support to Operational Communications

The operational communications concept provides the new doctrine necessary to unify all responders around one common effort—the delivery of information to emergency responders and survivors of catastrophic disasters. The common vision creates an interconnected interagency system of communications capabilities across all levels of government to provide mission-critical information and situational awareness vital to disaster responder command and control decision making.

Federal Emergency Management Agency

FEMA leads and coordinates the Federal Government’s disaster response, continuity efforts, and restoration of information technologies and communications essential for an effective response. FEMA’s operational and tactical capabilities converge to provide seamless response and recovery connectivity throughout the designated incident area. FEMA performs operational communications functions to support incident response in complex environments, where knowledge of disaster management and emergency communications systems and networks is critical to mission success. Operational communications is executed through FEMA’s 10 Regions, Federal response teams (e.g., IMATs), and its MERS detachments.

Department of Homeland Security Cyber Security and Communications

As the ESF #2 Coordinator and co-Primary Agency under the National Response Framework, the DHS Office of Cybersecurity and Communications (CS&C) plays a critical role in supporting commercial private sector communications infrastructure restoration. This role supports industry partners with logistics coordination (e.g., access, fuel, security) in an effort to expedite commercial restoration efforts. CS&C performs this critical role in disasters as an integral part of FEMA’s operational communications management structure.

Department of Homeland Security National Coordinating Center for Communications

The National Coordinating Center (NCC) for Communications coordinates all department and agency communications assets in response to the event and works closely with industry to expedite restoration using all nationally-available assets. The NCC also provides the forum for industry to discuss its needs and plans with government and other industry members. The Department of Homeland Security (DHS) NCC coordinates with DHS CS&C to obtain appropriate staff resources and deploys them to meet FEMA mission requirements. The NCC, in close coordination with FEMA and the Support Agencies under ESF #2, can direct deployment of response and restoration personnel to coordinate Federal communications response and recovery in support of the state, tribe, territory, or insular area.

The NCC will coordinate with the Federal Communications Commission (FCC) to provide initial radio-based (e.g., cellular radio, broadcast services, microwave radio, some satellite services, land mobile radio) frequency assessments of the affected area and assists in prioritization and location of available assets to assist in the reconstruction. At the same time, the FCC and the National Telecommunications and Information Administration (NTIA) assist in any provisioning of temporary licensing or other rule requirements. The reconstitution or implementation of temporary facilities for media services will be essential.

Supporting Departments and Agencies

ESF #2 works with Federal departments and agencies and industry to coordinate prioritization of communications requirements. FEMA and its ESF #2 partners routinely examine the lead times for equipment and support personnel needed for response and recovery operations. ESF #2 Primary and Support Agencies work with local, state, tribal, territorial, and insular area governments to ensure that, through their planning, training, and exercises, they understand how the communications infrastructure must be maintained and supplied during response and recovery operations.

In addition, the DHS Office of Emergency Communications must advise local, state, tribal, territorial, and insular area governments of consequences should specific sites fail to be maintained operational. DHS CS&C provides communications analysis that identify critical communications infrastructure. During an actual response, the NCC provides data to assist the FCO with restoration prioritization, access coordination, security assurance, and fuel replenishment in an effort to mitigate communications inoperability.

Core Capability Communications Tools

Operational communications tools include both hardware and software command and control capabilities required to implement the whole community approach. Disaster support information systems support large-scale emergency management requirements, including situational awareness; logistics; search and rescue; medical; evacuation; law enforcement; and Federal team support. New and innovative communications systems are being used to support recovery (e.g., in-take registration) and disaster survivor assistance mission planning. Essential operational communications are composed of mobile applications, systems, and nodes delivering information and knowledge to emergency management decision makers at all levels of government. Key disaster support management information systems capabilities are provided in Table E-1.

Table E-1: Communications Assets

Application	
Automated Deployment Database	The electronic system used to deploy FEMA personnel to disaster field operations, regional assignments, exercises and training. Tracks deployed personnel through a self-check-in and checkout process and provide an audit of deployed personnel by facility. Used to manage PFTs, COREs, Reservists, and FEMA Corps deployed personnel.
Crisis Information Management Software	Supports the standard NIMS Incident Command System (ICS) incident command functional and includes ICS forms and features tailored for specific ESFs.
Disaster Information Reporting System/Network Outage Reporting System	The Disaster Information Reporting System is a voluntary, Web-based system that communications companies, including wireless, wireline, broadcast, and cable providers, can use to report communications infrastructure status and situational awareness information during times of crisis. The FCC requires communications providers, including wireline, wireless, paging, cable, satellite, and Signaling System 7 service providers to electronically report information about significant disruptions or outages to their communications systems. The Network Outage Reporting System is the Web-based filing system through which required communications providers submit reports to the FCC.
Logistics Supply Chain Management System	Supports FEMA's mission of responding to all hazards expediently and efficiently by managing the Nation's end-to-end supply chain of disaster assets and commodities. Manages the supply chain process, including initial request for assets and commodities; orders to FEMA and partners; transportation; inventory management at FEMA locations; and shipment and receipt by the state, tribe, territory, or insular area. Also provides supply chain management, situational awareness and in-transit visibility, performance management reporting, and geographic information system (GIS) mapping capabilities.

Radio Systems	
Area Satellite Communications (Ku Band)	Satellite communication systems designed to service large groups such as a JFO, Disaster Recovery Center, or Survivor Assistance locations. These systems typically operate in the Ku frequency band and can provide voice, video, data, public Internet, and access to selected government networks.
National Response Network (Land Mobile Radio Network)	A rapidly expandable, always on, system of interconnected repeaters providing potential nationwide interoperable communications. Provides critical voice communications for FEMA and the emergency response community by providing a rapidly deployable land mobile radio network capability enabling communications in the field and to key command and control nodes nationwide. These nodes include the FEMA National Response Coordination Center, RRCCs, MERS detachments, FEMA Regions, and prospective future nodes as required.

Radio Systems	
Gulf Coast Trunked System—Land Mobile Radio Network Resources (800 MHz)	An in-place network of trunked repeaters available to support disaster response along the Louisiana/Mississippi coast. Caches of radios are maintained and accessible to each MERS detachment as needed.
National Cache—Land Mobile Radio Network Resources (UHF/VHF/800 MHz)	A FEMA-managed assembly of land mobile radio network and satellite communications systems for rapid deployment. Contained in two warehouse trucks with accompanying shop trailers. Capability was developed and outfitted to support response efforts when the demand for additional equipment exceeded the resources available within the first 24 hours of operation.
National Oceanic and Atmospheric Administration Weather Radio All-Hazards	This network of remotely operated radio transmitters operated by National Weather Service Weather Forecast Offices can be used to transmit weather and public safety messages.
Personal Satellite Communications	Satellite communication systems designed for a single person, including, but not limited to, Iridium, MSAT, and Thuraya. Provide access to the public switched telephone network through a satellite to telephone system gateway. Iridium provides Type 1 encryption. Several enhancements have been implemented recently, such as real-time tracking with input into GIS mapping systems and Over-The-Horizon, Beyond-Line-of-Sight, and one-too-many broadcast systems.
Mobile Satellite with Satellite Mutual Aid Radio Talk Group	Provides one-to-many broadcast-style push-to-talk communications that lets government and public safety responders quickly communicate with each other during incidents and emergencies. The network can be linked locally, regionally, or nationally. In addition to the ability to communicate across multiple public safety agencies, each national Satellite Mutual Aid Radio Talk Group is designed to serve different public safety communities.
Team Satellite Communications	Satellite communications systems designed to service a small group (2–6 personnel) with voice and data capabilities. These systems are extremely easy to install and provide rapid arrival to communications response times.

Information Sharing Networks	
Defense Information Systems Networks Non-Secure Internet Protocol Routed Network	Used to exchange sensitive but unclassified information between internal users as well as providing users access to the Internet. Composed of Internet Protocol routers owned by the Department of Defense (DoD).
DHS Homeland Security Data Network	A secure Web-based communications system that serves as the primary DHS nationwide information sharing and collaboration network for transferring classified information. Provides Secret-level connectivity to enhance the ability of local, state, tribal, territorial, and insular area partners to receive federally-generated classified threat information.

Information Sharing Networks	
DHS Homeland Security Information Network	An unclassified, Web-based communications system that serves as the primary DHS nationwide information sharing and collaboration network. Supports interagency information exchange and enables all states and major urban areas to collect and disseminate near-real-time information among communities of interest in managing all-hazard contingencies. Provides adequate protection for Law Enforcement Sensitive, Sensitive but Unclassified, and For Official Use Only information to be shared during an incident. All participants should work within this unclassified medium to maximize information sharing with other participants.
DHS OneNet	A unified Internet Protocol platform for connecting every DHS location and all DHS mission areas. DHS OneNet will drive DHS spectrum requirements in the future. DHS OneNet supports existing mission-critical wireless data and voice systems to provide on-demand, wireless communications capabilities with appropriate levels of coverage, security, and reliability. OneNet infrastructure also supports interoperability by leveraging existing local, state, tribal, territorial, insular area, and Federal systems to provide DHS users access to improved capabilities in a cost-effective manner.
Defense Information Systems Agency Secure Internal Protocol Routed Network	A system of interconnected computer networks used by DoD and Department of State (DOS) to transmit classified information (up to and including information classified Secret) by packet switching over the Transmission Control Protocol/Internet Protocol protocols in a completely secure environment. Also provides services such as hypertext document access and electronic mail. Network is DoD's classified version of the civilian Internet and is the Secret component of the Defense Information Systems Network.
DisasterAWARE	The Office of the Secretary of Defense Crisis Management uses a Web-based integrated GIS platform called DisasterAWARE for shared situational awareness, decision support, and information exchange. This platform is available to the public and private sector to support humanitarian assistance in the realm of disaster management and risk reduction. In addition, a disaster alert is available for mobile devices that display the DisasterAWARE active hazards on maps.

Messaging Systems	
Emergency Notification System	An automated emergency notification tool which enables FEMA to notify personnel in an emergency situation where activation for disaster response is possible or anticipated.
Integrated Public Alert and Warning System	A multiagency emergency population warning system designed to provide rapid, reliable and effective communication to the public in case of major emergencies such as natural disasters and terrorist attacks.
Personal Accountability System	Provides a standardized method to account for and determine the status of DHS employees, detailees, and contractor staff who may be affected by a catastrophic event or emergency situation.

Mobile Systems	
Command and Control; Command Post; and Emergency Office Vehicles	<p>Command and control and operations support vehicles that can be more rapidly deployed than an emergency office vehicle to an incident or event. Its primary purpose is to provide initial work space and communications capabilities for response personnel. Multiple departments and agencies have acquired command and control; command post; and emergency office vehicles and capabilities.</p> <p>Examples include:</p> <ul style="list-style-type: none"> ▪ FEMA MERS <ul style="list-style-type: none"> • Emergency Office Vehicles • Mini Emergency Office Vehicles • Incident Response Vehicles • U.S. Coast Guard Enhanced Mobile Incident Command Post • U.S. Coast Guard Rescue-21 ▪ FCC Roll Call ▪ DoD Communications Assets ▪ Federal Protective Services Incident Command Post

Other	
Government Emergency Telecommunications System	Provides emergency access and priority processing in the local and long distance segments of the Public Switched Telephone Network. It is intended to be used in an emergency or crisis situation when the public switched telephone network is congested and the probability of completing a call over normal or other alternate telecommunication means has significantly decreased.
H.323 Video Teleconferencing	H.323 is the suite of protocols for Internet Protocol-based videoconferencing. This establishes the standards for computers, equipment, and services for multimedia communication over packet-based networks that define how real-time audio, video and data information is transmitted. Connections, via an Internet Protocol-to-Integrated Service Digital Network gateway can provide the ability to videoconference with older H.320-based systems.
High Frequency Systems and Networks	Multiple high frequency networks provide contingency, long-range, and/or public-switched telephone network independent communications. These networks are managed by several different agencies and provide connectivity based on their participants.
Integrated Common Analytical Viewer	A Web-based geospatial analytical and situational awareness system consisting of imagery; government-owned and licensed data; and dynamic, mission-specific information integrating threats, weather, and situation awareness information. Imagery fused with data layers and information feeds provide users with a rapid, shared situational awareness of the cyber incident and the critical infrastructure or population centers affected to support coordinated preparedness, response, and recovery activities. Unites partners at the local, state, tribal, territorial, insular area, and Federal levels as well as other nongovernmental partners through an integrated, geographic-shared situational understanding for information sharing, analysis, visualization, and dissemination.

Other	
Interoperability/Cross-banding (ACU)	ACUs (several models) can simultaneously cross-connect different radio networks; connect radio networks to telephone or satellite communications systems; and network Radio Over Internet Protocol/Voice Over Internet Protocol talk paths to enhance interoperable communications between response elements.
Satellite-based Internet Service (Ka Band)	Contracts providing satellite-based Internet and phone capabilities, including installation and removal, are currently available. These contracts can provide short notice (within 48 hours) installation of satellite capabilities providing voice and Internet to identified locations.
Wireless Priority Service	A priority calling capability that greatly increases the probability of call completion during a national security and emergency preparedness event while using their cellular phone. To make a Wireless Priority System call, the user must first have the Wireless Priority System feature added to their cellular service. Once established, the caller can dial *272 plus the destination telephone number to place an emergency wireless call.

Operational Communications Tasks

Mission Objectives (MO)

- OC-MO-1: Coordinate operational communications planning amongst whole community partners. (Supports OC-Critical Task-1)
- OC-MO-2: Gain and maintain a shared situational awareness and understanding of the operating environment as it pertains to the communications infrastructure. (Supports OC-Critical Task-1)
- OC-MO-3: Identify, alert, deploy, and adjudicate Federal communications resources to support responders at all levels and the affected population. (Supports OC-Critical Task-1, OC-Critical Task-2)
- OC-MO-4: Integrate Federal response equipment with jurisdictional communications systems to facilitate interoperable communications between responders at all levels and the affected population. (Supports OC-Critical Task-1)
- OC-MO-5: Reestablish sufficient communications within the affected area. (Supports OC-Critical Task-2)

Phase 1a—Normal Operations

End State: Planning, training, and exercises have been conducted, and systems build-out has enhanced the abilities of responders to communicate. Coordination with public and private partners has resulted in increased awareness of technological and procedural gaps and the solutions required to achieve communications interoperability. (Supports OC-MO-1)

- Tasks by Phase, by ESF
 - All
 - ♦ Identify potential local, state, tribal, territorial, insular area, and Federal emergency communications requirements.
 - ♦ Identify and inventory equipment and resources needed to support response operations.

- ♦ Conduct essential planning functions to achieve operational coordination objectives and key critical tasks by conducting the following planning:
 - Provision of tactical communications
 - Coordination of commercial communications
 - Coordination of spectrum management
 - Information assurance
 - Establishment of external connectivity
 - Performance of recovery operations
 - Development of joint/interagency concepts.
- ♦ Prepare local, state, tribal, territorial, insular area, and Federal responders through the development and use of new and existing communications doctrine, policy, regulations, and standard operating procedures.
- ♦ Develop, review and distribute Federal disaster emergency communications planning information to Support Agencies.
- ♦ Develop strategies for an effective program of national-level plans and capabilities to provide sufficient and timely support in the event of multiple events or a catastrophic incident.
- ♦ Coordinate with local, state, tribal, territorial, insular area, and Federal partners to develop plans to achieve interoperable communications across jurisdictions and establish baseline disaster emergency communications requirements, standards, guidance, and metrics that define measures of success.
- ♦ Establish a consensus on essential emergency communications capabilities each local, state, tribal, territorial, or insular area jurisdiction should strive to have in place to serve as a baseline for addressing capability shortfalls.
- ♦ Identify, with DHS and other Federal departments and agencies, nationwide capabilities and shortfalls.

Phase 1b—Elevated Threat

End State: Based on preliminary information, operational communications plans are refined to address the operational communications needs of whole community partners. (Supports OC-MO-1)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 1c—Credible Threat

End State: Existing Federal communications response equipment is catalogued and readied for deployment. (Supports OC-MO-3)

The Response FIOP is based upon a no-notice incident. Tasks that would be conducted for a notice incident are addressed in Phases 1a, 2a, 2b, or 3a, as appropriate. This includes any pre-deployment and/or staging of resources. There will not be any tasks listed for Phases 1b or 1c. Refer to the base plan for general information regarding pre-incident operations.

Phase 2a—Immediate Response

End State: Preliminary damage assessments have been conducted, in coordination with public and private sector partners, to identify the status of communications infrastructure. Federal personnel have been alerted. (Supports OC-MO-2, OC-MO-3)

- Tasks by Phase, by ESF

- ESF #2

- ♦ Establish incident area communications capabilities for local, state, tribal, territorial, insular area, and Federal entities.
 - ♦ Coordinate with states, tribes, territories, and insular areas to implement state and regional emergency communications plans in concert with the National Preparedness Goal.
 - ♦ Identify communications requirements for internal and external stakeholders.
 - ♦ Push communications capabilities forward to responders at the incident location.
 - ♦ The FEMA DEC Office will employ its tactical communications capabilities to enable Federal command and control; assist state offices of emergency communications; and support the JFO.
 - ♦ Provide connections between incident-level networks and regional/national-level systems to provide status updates; situational awareness; command and control; and resource coordination.
 - ♦ Support the operating requirements of the FCOs, their staffs, and National and Regional IMATs.
 - ♦ Gather information to determine where needs exist and where communications may be interrupted.
 - ♦ Issue mission assignments for other Federal department and agency partners for communication assets that cannot be supplied by FEMA.
 - ♦ Coordinate with ESF #13, as required, for escort, on-scene security, or protection of deployed resources.

- ESF #3

- ♦ Mobilize Deployable Tactical Operation Systems to support the mission execution.

- ESF #5

- ♦ Gather information to determine where needs exist and where communications may be interrupted.
 - ♦ Issue mission assignments to ESF #2 and other Federal department and agency partners for communication assets that cannot be supplied by FEMA.

- ESF #13

- ♦ Assess the need for On-scene Security, Protection, and Law Enforcement of deployed resources.

Phase 2b—Deployment

End State: Resources and capabilities have been coordinated amongst public and private sector partners and deployed to the affected area to meet shortfalls. Preliminary Federal response equipment has been adjudicated and integrated with jurisdictional communications systems. (Supports OC-MO-3, OC-MO-4)

- Tasks by Phase, by ESF
 - All
 - ♦ Coordinate with local, state, tribal, territorial, and insular area governments, NGOs, and private sector partners to integrate resources, increase capabilities, and meet shortfalls.
 - ESF #2
 - ♦ Deploy, install, operate, maintain, and protect telecommunications and operations assets in response to disasters and in support of planned special events.
 - ♦ Coordinate with appropriate departments, agencies, and industry partners to perform temporary restoration of local communications infrastructure.
 - ♦ Increase bandwidth and connectivity by tying into public networks as far forward as possible.
 - ♦ Deploy FCC and NTIA frequency managers to coordinate frequency usage, and DoD frequency assignments to the IOF, JFO, and elsewhere as appropriate.
 - ♦ Deploy communications resources, as directed, to support Incident Management Teams; command and control; emergency operations centers; mass care services; Public Health, Healthcare, and Emergency Medical Services; search and rescue; and public information and warning.
 - ♦ Establish, maintain, and operate voice, video, and data communications systems.
 - ♦ Install, operate, and maintain communications towers.
 - ♦ Integrate mobile communications devices into first responder networks.
 - ♦ Provide interoperability through the integration of disparate systems.
 - ♦ Provide fixed, mobile, and commercial communications capabilities to stakeholders.
 - ♦ Provide backup capabilities through the use of redundant communications systems.
 - ♦ Establish backhaul for local networks into national-level systems.
 - ♦ Ensure communications reach back to FEMA national and regional fixed facilities.
 - ♦ Provide tactical communications by coordinating the acquisition and delivery of tactical communications capabilities necessary to meet one or more responding agencies' response and recovery requirements.
 - ♦ Coordinate the acquisition and delivery of commercial communications to permit access to services normally available to, or to enhance capabilities for, response agencies and the public.
 - ♦ Coordinate spectrum management by processing requests for frequency assignments, performing frequency de-confliction, and designating spectrum assignments based upon requests for resources (e.g., channels, talk groups, mutual aid interoperability).

- ♦ Protect systems and information in storage, processing, or transit from unauthorized access or modification; denial of service to unauthorized users; or the provision of service to authorized users. Implement measures necessary to detect, document, and counter such threats.
- ♦ Aid in evaluating post-incident communications needs for restoration of the communications infrastructure.
- ♦ Enhance disaster communications restoration through satellite backhaul and network Land Mobile Radio using Radio over Internet Protocol technologies.
- ♦ Coordinate with ESF #4, as required.
- ♦ Coordinate, as required, for the procurement of communications equipment and services.
- ESF #4
 - ♦ Provide radio communications systems to support firefighters, law enforcement officers, and incident response operations.
- ESF #5
 - ♦ Activate ESF #2 at the national and regional levels to provide coordination and technical assistance.
- ESF #7
 - ♦ Coordinate the procurement of communications equipment and services.

Phase 2c—Sustained Response

End State: Sufficient communications have been reestablished within the affected area. (Supports OC-MO-5)

- Tasks by Phase, by ESF
 - ESF #2
 - ♦ Assess the viability of tactical (hastily formed networks) and commercial communications infrastructure and provide mid-to long-term restoration plans for public and private communications systems.
 - ♦ Introduce resources needed to repair critical infrastructure.
 - ♦ Implement required resources for short-term restoration of critical infrastructure.

Phase 3a—Short-term Recovery

End State: As communications systems are restored, Federal communications support resources have been reconstituted or demobilized, as appropriate. (Supports OC-MO-5)

- Tasks by Phase, by ESF
 - ESF #2
 - ♦ The FEMA DEC Office will operationalize emergency communications plans established with states, tribes, territories, and insular areas pre-event by ensuring the integrity of first responder networks and a smooth transition to long-term restoration.

Coordinating Information

FEMA Office of the Chief Information Officer

FEMA Office of the Chief Information Officer's Disaster Response Team is responsible for rapidly establishing full-service voice, data, and video communications for all responders working from JFOs and other FEMA-established locations. Upon arrival, the Disaster Response Team immediately provides full local area network connectivity for supported departments, agencies and NGOs working from these locations. Arrangements for home-agency connectivity through virtual private networking must be coordinated with the Disaster Response Team in advance.

Federal Spectrum Management

The Communications Act of 1934 grants the President authority for spectrum management for all Federal use (47 U.S.C. § 305). The NTIA manages the spectrum for the Federal Government. The rules can be found in the NTIA Manual of Regulations and Procedures for Federal Radio Frequency Management. The FCC manages and regulates all domestic non-Federal spectrum use (47 U.S.C. § 301). Their rules can be found in 47 C.F.R. The DoD, in accordance with NTIA authority and policy, manages parts of the radio spectrum that are designated exclusively or primarily for DoD use. The NTIA Office of Spectrum Management is responsible for managing the Federal Government's use of the radio frequency spectrum. To achieve this, the Office of Spectrum Management receives assistance and advice from the Inter-department Radio Advisory Committee. The Office of Spectrum Management carries out this responsibility by:

- Establishing and issuing policy regarding allocations and regulations governing the Federal spectrum use
- Developing plans for the peacetime and wartime use of the spectrum
- Preparing for, participating in, and implementing the results of international radio conferences
- Participating in all aspects of the Federal Government's communications related emergency readiness activities
- Assigning frequencies to Federal departments and agencies
- Responding to radio frequency coordination requests from the FCC
- Maintaining spectrum-use databases
- Reviewing Federal departments' and agencies' new telecommunications systems and certifying that spectrum will be available
- Providing the technical engineering expertise needed to perform specific spectrum resources assessments and automated computer capabilities needed to carry out these investigations
- Participating in Federal Government telecommunications and automated information systems security activities.

Non-Federal Spectrum Management

The FCC, an independent U.S. Government agency, manages the use of non-Federal spectrum by:

- Licensing the use of non-Federal spectrum, to include radio and television broadcast, wire, satellite, land mobile, and cable communications
- Processing applications for licenses and other filings
- Investigating complaints of harmful radio frequency interference

- Granting special temporary authority or waiving rules in an emergency to assist with emergency response and restoration.

Information Systems Protection

Effective response to a significant cyber incident relies on interagency coordination and each individual agency's level of engagement relies, in part, on the nature and impact of the incident. Departments and agencies may be involved in the cyber incident response effort, to include DHS, DoD, and the Department of Justice.²⁹ They receive additional support from the Department of Commerce, Department of Energy, DOS, Department of Transportation, Department of the Treasury, FCC, Intelligence Community, National Institute of Standards and Technology, and the Office of Management and Budget. Coordination of these efforts is conducted through the National Cybersecurity and Communications Integration Center (NCCIC). For cyber incidents that have significant physical cascading effects, FEMA leads the physical consequence management effort in accordance with the National Response Framework in cooperation with the DHS Office of Cybersecurity and Communications (CS&C).

The DHS NCCIC is a 24/7, integrated cybersecurity and communications operations center, which works directly with Federal and state, local, tribal, and territorial governments and the private sector. It serves as a centralized location where the operational elements that participate in the NCCIC involved in cyber response activities are physically and virtually co-located. During steady-state operations, the NCCIC will utilize its co-located elements and outreach mechanisms to bring all appropriate information together and, as necessary, to support incident response. During a significant cyber incident, the NCCIC is responsible for coordinating and integrating information to provide cross-domain situational awareness and fostering collaboration and a shared situational awareness among collaborating cybersecurity centers. Co-located elements includes: NCC for Telecommunications; U.S. Emergency Readiness Team; and Industrial Control Systems Cyber Emergency Response Team.

Communications Security

The primary responsibility for secure communications rests with users who require that capability, and those users must plan to bring appropriate devices with them when they deploy. Secure landline voice capabilities, such as secure terminal equipment devices, are available in some state, tribal, territorial, insular area, and Federal facilities; secure cellular phones may be provided to senior leadership by MERS. MERS may deploy vehicles with secure voice capabilities to the state, tribal, territorial, or insular area EOC or to the incident area in support of FCO requirements. Secure communications capabilities are also available in the MERS equipment.

Video Teleconference and Communications Requirements

DEC Division coordinates Federal resources to provide video assets to support response operations. MERS uses its own organic assets, such as the Mobile Communications Office Vehicle, to provide shared situational awareness and to supply video capabilities, including secure video, if required, to leadership.

²⁹ The National Cyber Investigative Joint Task Force is a multiagency national focal point for coordinating, integrating, and sharing pertinent information related to cyber threat investigations, with representation from the Central Intelligence Agency (CIA), National Security Agency (NSA), the United States Secret Service (USSS), and other agencies as appropriate. Under the authority of the Attorney General, the Director of the FBI is responsible for the operation of the NCIJTF, but does not direct the operations of other agencies.

Administration and Support

Activation, notification, deployment, and deactivation will be accomplished by the standard procedures of each of the responding departments and agencies. All actions in response to an incident will be in accordance with all laws, acts, regulations, or other legal authorities that may apply.

The following legal agreements may be applied specifically to operational communications:

- Emergency Management Assistance Compact will be utilized as need dictates.
- Memoranda of Understanding will be implemented as need dictates.

Table E-2: Operational Communications Core Capability Waivers, Exceptions, and Exemptions

Type	Description
Waiver	FCC: Issue notices, orders, and approve requests for Special Temporary Authority and waivers providing telecommunications providers the authority to operate outside of their regularly established parameters during disaster response operations as well as allowing extension of report filing deadlines.

Annex Y: List of Abbreviations

AABB	American Association of Blood Banks
AAR	After Action Report
AFO	Area Field Office
AL	Authority/Legal
AOP	Advanced Operational Plan
APHIS	Animal and Plant Health Inspection Service
ASPA	Assistant Secretary for Public Affairs (Department of Health and Human Services)
ASPECT	Airborne Spectral Photometric Environmental Collection Technology
ATF	Bureau of Alcohol, Tobacco, Firearms, and Explosives
BEST	Border Enforcement Security Task Force
C.F.R.	Code of Federal Regulations
C3	Command, Control, and Communication
CA	Congressional Affairs
CBRN	Chemical, Biological, Radiological, or Nuclear
CBRNE	Chemical, Biological, Radiological, Nuclear, or High-yield Explosive
CDC	Centers for Disease Control and Prevention
CDP	Community Distribution Point
CFATS	Chemical Facility Anti-terrorism Standards
CIR	Critical Information Requirement
CMAS	Commercial Mobile Alert System
COP	Common Operational Picture
COTR	Contracting Officer's Technical Representative
CS&C	Office of Cybersecurity and Communications
DCO	Defense Coordinating Officer
DCE	Defense Coordinating Element
DEC	Disaster Emergency Communications
DHS	Department of Homeland Security
DLA	Defense Logistics Agency
DMAT	Disaster Medical Assistance Team
DMORT	Disaster Mortuary Operational Response Team
DOC	Department of Commerce
DoD	Department of Defense

DOE	Department of Energy
DOI	Department of the Interior
DOJ	Department of Justice
DOL	Department of Labor
DOS	Department of State
DOT	Department of Transportation
D-SNAP	Disaster Supplemental Nutrition Assistance Program
EA	External Affairs
EAO	External Affairs Officer
EAS	Emergency Alert System
EH	Environmental Response/Health and Safety
EMAC	Emergency Management Assistance Compact
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
ESF	Emergency Support Function
F.R.	Federal Register
FAA	Federal Aviation Administration
FAMS	Federal Air Marshal Service
FBI	Federal Bureau of Investigation
FCC	Federal Communications Commission
FCO	Federal Coordinating Officer
FEMA	Federal Emergency Management Agency
FIOP	Federal Interagency Operational Plan
FM	Fatality Management Services
GeoCONOPS	Geospatial Concept of Operations
GIS	Geographic Information System
GSA	General Services Administration
Hazus	Hazards United States
Hazus-MH	Hazards United States-Multi-hazard
HHS	Department of Health and Human Services
HIDTA	High Intensity Drug Trafficking Area
HM	Public Health, Healthcare, and Emergency Medical Services
HSI	Homeland Security Investigations
HSIN	Homeland Security Information Network

HUD	Department of Housing and Urban Development
IAA	Interagency Agreement
IAP	Incident Action Plan
IA-TAC	Individual Assistance Technical Assistance Contract
iCAV	Integrated Common Analytical Viewer
ICE	Immigration and Customs Enforcement
ICP	Information Collection Plan
ICS	Incident Command System
IED	Improvised Explosive Device
IGA	Intergovernmental Affairs
IMAAC	Interagency Modeling and Atmospheric Assessment Center
IMAT	Incident Management Assistance Team
IOF	Initial Operating Facility
IPAWS	Integrated Public Alert and Warning System
IRCT	Incident Response Coordination Team
IRSCC	Interagency Remote Sensing Coordination Cell
IS	Infrastructure Systems
ISB	Incident Support Base
IST	Incident Support Team
JFO	Joint Field Office
JIC	Joint Information Center
JOC	Joint Operations Center
LEP	Limited English Proficiency
LMD	Logistics Management Directorate
MAC	Mapping and Analysis Center
MANPADS	Man-portable Air Defense Systems
MC	Mass Care
MCC	Movement Coordination Center
MERS	Mobile Emergency Response Support
MO	Mission Objective
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MS	Mass Search and Rescue
NCC	National Coordinating Center

NCCIC	National Cybersecurity and Communications Integration Center
NCH	Natural and Cultural Resources and Historic Properties
NCIJTF	National Cyber Investigative Joint Task Force
NDMS	National Disaster Medical System
NEFRLS	National Emergency Family Registry and Locator System
NGA	National Geospatial Intelligence Agency
NGO	Nongovernmental Organization
NICC	National Infrastructure Coordinating Center
NICCL	National Incident Communications Conference Line
NIMS	National Incident Management System
NLC	National Logistics Coordinator
NLS	National Logistics System
NOAA	National Oceanic and Atmospheric Administration
NOC	National Operations Center
NPS	National Park Service
NRC	Nuclear Regulatory Commission
NRCC	National Response Coordination Center
NRF	National Response Framework
NSSE	National Special Security Event
NTAS	National Terrorism Advisory System
NTIA	National Telecommunications and Information Administration
NWS	National Weather Service
NVRT	NVRT National Veterinary Response Team
OC	Operational Communications
OCIA	Office of Cyber and Infrastructure Analysis
OCD	Operational Coordination
OFDA	Office of Foreign Disaster Assistance
OP	On-scene Security, Protection, and Law Enforcement
OPA	Office of Public Affairs
OSC	On-scene Coordinator
OSHA	Occupational Safety and Health Administration
P	Planning
P/I	Process and Implementation
PI	Public Information and Warning

PICCL	Private Sector Incident Communications Conference Line
PIW	Public Information and Warning
POD	Point of Distribution
PPD	Presidential Policy Directive
PPE	Personal Protective Equipment
PRT	Planning and Response Team
PS	Public and Private Sector and Resources
PSMA	Pre-scripted Mission Assignment
R	Resources
RECC	Regional Emergency Communications Coordinator
RETCO	Regional Emergency Transportation Coordinator
RGC	Regional Geospatial Coordinator
RMG	Resource Management Group
RRCC	Regional Response Coordination Center
RSF	Recovery Support Function
RSS	Resources Support Section
S/A	Situational Awareness
S/PW	Social/Public Will
SA	Situational Assessment
SAM	Site Access and Mobility
SAR	Search and Rescue
SBA	Small Business Administration
SICCL	State Incident Communications Conference Line
SIOC	Strategic Information and Operations Center
SME	Subject Matter Expert
SNRA	Strategic National Risk Assessment
SSA	Sector-Specific Agency
THIRA	Threat and Hazard Identification and Risk Assessment
THU	Temporary Housing Unit
TMCG	Transportation and Management Coordination Group
TR	Critical Transportation
U.S.C.	U.S. Code
UCG	Unified Coordination Group
US&R	Urban Search and Rescue

USACE	U.S. Army Corps of Engineers
USAID	U.S. Agency for International Development
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
VA	Department of Veterans Affairs
VAL	Voluntary Agency Liaisons
VOAD	Voluntary Organizations Active in a Disaster
WMD	Weapons of Mass Destruction

Annex Z: Distribution

Distribution, transmission, and destruction of the Response Federal Interagency Operational Plan (FIOP) will be in accordance with the Department of Homeland Security (DHS) Management Directive 11042.1, which is publically available. Questions pertaining to the distribution, transmission, or destruction of this FIOP or for information on how to obtain a copy of DHS Management Directive 11042.1 should be submitted in writing to the Federal Emergency Management Agency's National Planning Branch at response-planning@fema.dhs.gov.

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Power Outage Incident Annex to the Response and Recovery Federal Interagency Operational Plans

*Managing the Cascading Impacts from a Long-Term
Power Outage*

Final - June 2017



Homeland
Security

Handling Instructions

Distribution, transmission, and destruction of this annex is in accordance with Department of Homeland Security Management Directive 11042.1.¹ Submit questions pertaining to the distribution, transmission, or destruction of this annex to the Planning and Exercise Division, National Planning Branch at response-planning@fema.dhs.gov.

Intended Audience

The primary audience for this annex is federal departments and agencies with a role in emergency management. However, local, state, tribal, territorial, and insular area officials, as well as private sector and nongovernmental partners with roles and responsibilities for responding to and/or recovering from long-term power outages will also benefit from the material in this annex.

¹ https://www.dhs.gov/xlibrary/assets/foia/mgmt_directive_110421_safeguarding_sensitive_but_unclassified_information.pdf

Document Change Control

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Base Annex

Situation

Introduction

Response to a long-term power outage will involve two major concurrent operational efforts; the restoration of power and lifesaving and life-sustaining efforts. Restoration of power will remain within the purview of the utility companies. If a need for federal engagement for energy restoration efforts arises, the Department of Energy (DOE), as the sector-specific agency (SSA) as well as the lead federal agency for the energy sector, directs those efforts. However, the utility companies will maintain operational control over restoration efforts.

Concurrently, the Department of Homeland Security (DHS), through the Federal Emergency Management Agency (FEMA), will coordinate lifesaving and life-sustaining efforts. FEMA will coordinate federal incident response and recovery activities consistent with the constructs identified within the National Response Framework (NRF) and the National Disaster Recovery Framework (NDRF). The Federal Government integrates its efforts with those of local, state, tribal, territorial, and insular area governments; the private sector; and nongovernmental organizations (NGOs).

The Nation's energy sector consists of thousands of geographically dispersed and connected electricity, oil, and natural gas assets. The sector provides for and relies on the Nation's transportation, water, information technology (IT), communications, finance, government, and other critical infrastructures (CIs). Likewise, CI sectors reciprocally depend on energy—especially electricity. The private sector owns and operates the majority of the Nation's energy infrastructure. For this reason, private sector energy asset owners and operators are responsible for developing their own emergency plans and conducting training and exercises to validate and test their procedures. In most cases, energy asset owners and operators are also responsible for the stabilization, restoration, and reestablishment of normal operations at their facilities following a disruption. Fortunately, electric companies in the United States have well-developed protocols that address business continuity, and they are subject to mandatory federal reliability standards that ensure operational reliability. Even though utilities operate under different business models and ownership structures, asset owners and operators function in an integrated manner.

Electricity is essential for daily life. Basic functions, including communication, transportation, food, housing, water, and healthcare, are dependent upon it. As reliance on electricity continues to grow, a significant disruption to the electric grid may put lives, the economy, and the environment in danger. The incidents below illustrate how power outages have previously affected critical services in other CI sectors, such as fuel production and transportation, water and wastewater facilities, mass transit, and public health, and provide context for interdependencies and cascading effects across CI sectors for a long-term power outage.

- August 1996 Blackout—Outages lasted from a few minutes to as long as nine hours and affected over 7.5 million people in the United States, Canada, and Mexico. Power was restored in nearly all affected areas by the next day.

- **August 2003 Northeast Blackout**—Over 50 million people were without power for up to four days in the Midwest and Northeastern United States. Parts of the Province of Ontario, Canada suffered rolling blackouts for more than a week before power was fully restored.
- **Hurricane Katrina, 2005**— In August, Hurricane Katrina left an estimated 2.7 million customers without power across Alabama (AL), Florida (FL), Louisiana (LA), Mississippi (MS), and Texas (TX). Within two weeks, power was restored in AL, FL, and MS, yet full restoration in LA took almost another month due to extensive flooding and hurricane damage that required reconstruction of energy and other supporting infrastructure.
- **Hurricane Rita, 2005** – In September, Hurricane Rita left over two million customers without power throughout AL, FL, LA, MS, and TX. The impact of Rita further impeded ongoing restoration efforts, setting back the number of customers that had power restored initially from Katrina. Most neighborhoods in New Orleans that could take service had electric service restored by November, while the expected restoration timeframe for other local neighborhoods ranged from an additional four weeks to “indefinitely.”
- **Halloween Nor’easter, 2011** – Heavy snow in October 2011 brought down trees, resulting in 3.2 million residents across 12 states losing power. The storm arrived just two months after Hurricane Irene caused extensive power outages and property damage in the Northeast, with the 2011 New England tornado outbreak also causing damage in Western Massachusetts. In Connecticut, the outage lasted more than 11 days.
- **2012 Derecho** – This June storm resulted in power outages for 4.2 million people in 11 states and the District of Columbia. Power was restored within one week. Restoration took longer than anticipated because new follow-on storms affected the region during the second day of restoration, causing additional outages, slowing restoration, and setting back original estimates. Extreme temperatures that followed the 2012 Derecho may also have complicated restoration efforts for many utilities, as the high heat posed a safety risk to utility crews and lowered restoration efficiency.
- **Hurricane Sandy, 2012** – In October 2012, 20 states plus the District of Columbia experienced significant power outages because of Hurricane Sandy. Over 8.5 million customers lost electric power, and significant damage occurred to the energy infrastructure. Within two weeks of Sandy’s landfall, power was restored to 99 percent of customers.
- **Nor’easter 2012** – Following on the heels of Hurricane Sandy in November 2012, strong winds, rain, snow, and coastal flooding resulted in an additional 150,276 power outages on top of those that had already occurred due to Hurricane Sandy. Full restoration of power was achieved in early December 2012.

As shown in the above examples, utilities are fully prepared to respond quickly to restore power for the majority of disruptions that occur by using existing processes and agreements. However, there is a potential for a large-scale damage to the power infrastructure that may cause a long-term (+72 hours) interruption for a large swath of the country. Any prolonged interruption of the supply of basic energy, particularly electricity, would do considerable harm to the U.S. economy and the American people. A long-term outage that results in businesses, CI, and thousands of

people without power for weeks or months could leave the population in need of life saving and life-sustaining efforts.

When a power outage is of such significance and scope that it is beyond the ability of utility companies to restore power in a timely manner, resulting in local, state, tribal, territorial, or insular area capabilities being insufficient to support the population, the Federal Government provides assistance to jurisdictional response and recovery capabilities. A situation that may trigger a need for the local, state, tribal, territorial, or insular area to request federal assistance discussed in this annex will likely possess some or all of the following characteristics:

- The outage covers multiple states/FEMA Regions and leaves millions of customers without power for an extended period².
- A significant portion of the population in the affected area warrants prolonged mass care and emergency assistance support;
- A loss of critical lifeline functions (e.g., energy – electric, energy – gas/oil, water, communication, and transportation) results in risks to health, personal safety, national security, and economic viability.
- Impacts to other CI sectors result in significant loss of services or functions if the duration of the power outage is for an extended period of time.
- Local, state, tribal, territorial, or insular area governments need sustained operational coordination to respond to the effects from the power outage.

Purpose

The *Power Outage Incident Annex: Managing the Cascading Impacts from a Long-Term Power Outage* (POIA) provides guidance for federal level responders to provide response and recovery support to local, state, tribal, territorial, and insular area efforts while ensuring the protection of privacy, civil rights, and civil liberties.³ This annex provides incident-specific supplemental information to the basic concept of operations described in the Response and Recovery Federal Interagency Operational Plans (FIOP), which will be further refined in regional POIAs.⁴

The POIA includes the Federal Government's concept of operations and unified coordination structures required to execute survivor-centric response and recovery operations in the wake of a long-term power outage. The POIA is not an electricity restoration plan although the Federal Government may provide the appropriate supplemental federal assistance and resources to enable the restoration process in a timely manner. It does outline the types of federal support available to CI stakeholders in restoration activities and the responsibilities of industry

² The electricity industry defines a customer as a metered structure (i.e., a metered building is a single customer), not as the number of individuals within the structure.

³ Per the Response FIOP, the whole community includes individuals and communities, the private and nonprofit sectors, faith-based organizations, and all levels of government (local, regional/metropolitan, state, tribal, territorial, insular area, and federal). Whole community contributors include children; older adults; individuals with disabilities and others with access and functional needs; those from religious, racial, and ethnically diverse backgrounds; people with limited English proficiency; and owners of animals, including household pets and service animals.

⁴ As with all activities in support of the Response and Recovery FIOPs, activities in this annex must be consistent with all pertinent statutes and policies involving privacy and civil and human rights, such as the Americans with Disabilities Act of 1990, Rehabilitation Act of 1973, and Civil Rights Act of 1964.

stakeholders. The document also identifies potential critical information requirements and unique considerations that could hinder their ability to provide mission-essential services.

The POIA does not alter or impede the ability of any governmental department or agency to execute its authorities or meet its responsibilities under applicable laws, executive orders, and directives

Scope

This annex applies to response and recovery capabilities of the Federal Government in the event of a long-term power outage in which the cascading impacts are so severe that incident-specific activities are required to supplement those in the Response and Recovery FIOPs. Actions listed in this annex may be to provide support to local, state, tribal, territorial, and insular area governments or other federal agencies to address the ramifications of the incident.⁵ This annex will not focus on restoration efforts conducted by utility companies but will briefly address the capabilities of the Federal Government to support the sector in their restoration efforts for informational purposes.

Incident-specific response and recovery activities were determined based on the identified interdependencies and cascading impacts a long-term power outage would have on CI sectors and core capabilities and the relevant responsibilities and legal authorities of federal agencies.

Background

The electric power industry is the backbone of America's economic sectors, generating the energy that powers its people and businesses in global commerce. Transportation, water, emergency services, healthcare, communications, and manufacturing represent only a few of the power grid's critical interdependencies. Reliance on the electric grid is a key interdependency (and vulnerability) among all CI sectors and supporting infrastructures, making grid reliability and resilience a fundamental need for national safety and security. Therefore, a basic understanding of the roles of electricity providers is important for setting expectations of potential federal support to address the cascading impacts of a long-term power outage. See Annex A for more information on the electricity subsector and electricity delivery.

Over 3,200 electric companies in the United States generate, transmit, and distribute electricity for sale to customers. There are two types of utilities—for-profit and not-for-profit, as identified below.

For-Profit Utilities

- **Investor-Owned Utilities (IOU)** – IOUs are utilities operated as private, tax-paying businesses whose management is not associated with any government agency. Private citizens or private investment groups hold financial securities or assets, and the stock is publicly traded. IOUs may have service territories in one or more states. State commissions grant IOUs their licenses to operate in specific areas of the state under certain terms and conditions. The Federal Energy Regulatory Commission (FERC)

⁵ While the intent is not to use this annex for every incident in which there is a power outage, elements of this annex may be selectively used (e.g., critical information requirements) consistent with the principles in the NRF.

regulates IOU interstate generation, transmission, and power sales. A state commission or public utility commission regulates IOU distribution system and retail sales. While IOUs comprise only a small portion of the total number of utility companies in the United States, they serve more than two-thirds of the Nation's population.

- **Independent Power Producer** – Often called non-utility generators, independent power producers are entities that own or operate an electricity generating facility that is not included in an electric utility's rate base. They include, but are not limited to, cogenerators, small power producers, and all other non-utility electricity producers (such as exempt wholesale generators) who sell electricity.

Not-For-Profit Utilities

- **Public Power Utilities** – Public power utilities are not-for-profit utilities owned and operated by state or local governments or by agencies, authorities, or instrumentalities of such governments. City-owned utilities are also known as municipal utilities (munis). Public power utilities are regulated and governed by locally elected or appointed officials and are thus directly accountable to the communities they serve. Within the United States, more than 2,000 community-owned electric companies serve more than 48 million people, or about 14 percent of the Nation's electric companies.⁶
- **Rural Electric Cooperatives (Co-Ops)** – Electric co-ops are private, independent, not-for-profit electric utilities owned by the customers they serve. They are incorporated under the laws of the states in which they operate and are generally exempt from federal income tax laws. Established to provide at-cost electric service, co-ops are governed by a board of directors elected from the membership, which sets policies and procedures that the co-op's management implements. Distribution cooperatives deliver electricity to retail customers, while generation and transmission cooperatives provide wholesale power to distribution co-ops through their own generation or by purchasing power on behalf of the distribution members. Co-ops tend to provide service in rural areas that are not served by other utilities. Most electric cooperatives were initially financed by the Rural Utilities Service (formerly known as the Rural Electrification Administration) within the United States Department of Agriculture (USDA).
- **Federal Power Program** – This program includes the Tennessee Valley Authority (TVA), the Bonneville Power Administration (BPA), the Southeastern Power Administration (SEPA), the Southwestern Power Administration (SWPA), and the Western Area Power Administration (WAPA). TVA is a corporate agency of the United States that sells electricity to business customers and local power distributors serving nine million people in parts of seven southeastern states. BPA, SEPA, SWPA, and WAPA are Power Marketing Administrations (PMA). PMAs are federal agencies within DOE that market hydropower, primarily from multiple-purpose water projects operated by the Bureau of Reclamation, the USACE, and the International Boundary and Water Commission.

⁶ American Public Power Association website: <http://publicpower.org/>.

Interdependencies

Key interdependencies exist among the 16 CI sectors, as denoted in Table 1. The energy sector provides essential power and fuels upon which all other CI sectors depend. In turn, the energy sector depends upon other CI sectors, such as transportation, IT, communications, water, and government facilities, to help provide its services. For example, the transportation sector relies upon fuel for its operation, and the energy sector relies upon transportation for fuel delivery.

In addition to multiple cross-sector interdependencies, interdependencies also exist within the energy sector itself, which can further complicate the restoration of power. For instance, the increasing demand for natural gas to generate power has served to heighten the interdependence between gas and electric systems. Natural gas is used heavily in electricity generation, and electricity is necessary throughout the natural gas supply chain, including at production, pipeline, processing, and distribution facilities. In addition, supervisory control and data acquisition systems (SCADA) and energy management systems that supply data and monitor and control equipment and processes essential to energy industry operation both require reliable power supplies for their operations.

Since energy systems and networks also transcend national boundaries, cross-border collaboration, information sharing, mutual assistance, and other agreements are necessary to ensure reliable operations. For additional information on these relationships, impacts from a power outage, critical information requirements, and potential decisions for each CI sector, refer to Appendix 2: Critical Infrastructure Sector Interdependencies.

Table 1: CI Sector Interdependencies

Critical Infrastructure Sector	Energy Sector Reliance on CI Sector	CI Sector Reliance on Energy Sector
Chemical	Chemical products to extract coal or perforate gas and oil wells; petrochemicals	Chemical manufacturing
Communications	Voice and data services for management, response, and restoration activities	Facility power for voice and data services and distributed in-line network equipment
Commercial Facilities	Lodging and feeding of restoration workers	Facility service
Critical Manufacturing	Manufacturing and control logistics; transportation; supply chain integrity	Supply chain
Dams (hydroelectric)	Energy source	Station service
Defense Industrial Base	Manufacturing and control logistics; transportation; supply chain integrity	Military bases and defense production facilities
Emergency Services	Facility security and incident management	Facility power; communications; database use
Energy	Electricity generation fuel source; backup generators; service vehicle fuel; station service	Fuel production and transportation (pumping); station service
Financial Services	Financial institutions, funds transfers	Deposits; consumer credit; payment systems products
Food and Agriculture	Retail food and food service	Agricultural production; food manufacturing, processing, distribution, storage, transportation, retail, and food service
Government Facilities	Government functions	Facility service

Critical Infrastructure Sector	Energy Sector Reliance on CI Sector	CI Sector Reliance on Energy Sector
Healthcare and Public Health	Facility and community-based patient and staff well being	Facility service; community-based individuals with power dependent durable medical equipment or devices.
Information Technology	Automated tools	Facility service
Nuclear Reactors, Materials, and Waste	Electricity generation fuel sources	Station service, including safety systems
Transportation Systems	Fuel sources; equipment transportation	Communications; control systems; operations
Water and Wastewater	Electricity generation cooling	Water treatment; pumping and distribution

Threat

A power outage of this magnitude may be the result of a natural disaster, space weather, large near-earth object, accident, terrorist act such as an electromagnetic pulse (EMP), or significant cyber incident.⁷ This annex is not concerned with the threat and focuses on lifesaving and life-sustaining actions post power outage. However, response and recovery efforts listed in this Annex may be implemented in conjunction with other incident annexes. Depending on the cause of the power outage, other incident annexes or emergency plans (e.g., Nuclear Radiological Incident Annex or Earthquake Incident Annex) may be concurrently implemented but are supplementary to the overarching core coordinating structures, processes, and protocols detailed in the NRF, NDRF, and Response and Recovery FIOPs. When appropriate, counterterrorism and law enforcement operations are conducted in coordination with federal incident response and recovery operations.

Facts, Planning Assumptions, and Critical Considerations

In addition to the threats posed to critical lifeline sectors in the event of a significant grid disruption, it is also vital to consider how a prolonged power outage would affect those living in and around the impacted areas. These issues must be factored into whole community planning assumptions and critical considerations specific to a long-term power outage and are intended to supplement those listed in the Response and Recovery FIOPs.

Facts

If a power outage effects the United States for an extended period, the following facts drive planning:

- The private sector owns and operates the vast majority of the Nation's CI.
- The implications of the duration of the power outage may not be immediately known.

⁷ Pursuant to *Presidential Policy Directive – 41, United States Cyber Incident Coordination*, a significant cyber incident is a cyber incident that is (or group of related cyber incidents that together are) likely to result in demonstrable harm to the national security interests, foreign relations, or economy of the United States or to the public confidence, civil liberties, or public health and safety of the American people.

- All utilities, regardless of ownership, size or structure, have emergency plans and contingency plans for short-term power outages.
- Damage to energy generation capabilities will result in a longer restoration timeframe than if there is just damage to certain transmission or distribution capabilities.
- Damage to components of the electric transmission system could delay power restoration efforts and cause longer estimated restoration timelines than a loss of a generation asset, especially if the damaged component is limited in supply or requires time-consuming logistical support and installation.
- The Federal Power Act provides regulatory jurisdiction over wholesale, bulk power whereas states regulate the retail sale of power to customers at the distribution level.
- Lack of power will create challenges to providing consistent heat or air conditioning and sufficient sanitation/hygiene in shelter or other mass care facilities.
- People with disabilities comprise about 20 percent of the national population, and people with access and functional needs generally comprise about 30 to 50 percent of the population.
- The availability or shortage of redundant, accessible, and diverse communications will affect response and recovery operations.
- The Federal Government has a limited organic generator capability.

FACT: A statement of information known to be true, such as a verified location of an incident.

ASSUMPTION: A supposition about the current situation or future course of events, assumed to be true in the absence of facts.

Planning Assumptions

In absence of fact, planning assumptions represent information presumed to be true and are necessary to facilitate planning. Assumptions are a baseline for planning purposes, and they do not replace specific activities or decision points that would occur during an incident. During response and recovery operations, assumptions may become facts.

Certain assumptions pertaining to a long-term power outage are predicated on historical experiences or modeling. They include, but are not limited to the following:

General Assumptions

- Due to the duration of the outage, normal resources and processes for support to impacted populations is not sufficient.
- A large-scale or long-term power outage with significant consequences requiring interagency coordination is likely to be caused from a Stafford Act incident.
- Millions of customers and/or multiple states or FEMA Regions may be impacted.
- If an additional incident occurs during a long-term power outage, it will compound the effects of a power outage and the timeline for restoration of power.
- Federal response and recovery capabilities will be in limited supply, forcing resource prioritization decisions.

Assumed fuel and generator planning factors are based on the following information formulas for daily generator fuel requirements, daily fuel transportation requirements, and the daily fuel consumption by critical facility (see Figure 1, Figure 2, and Figure 3).

Figure 1: Daily Generator Fuel Requirements

<u>Temporary Emergency Power Fuel Requirements (< 72 Hours)</u>		
377,249	229,879,818	352,788,760
Facilities	Gallons/Day (Low)	Gallons/Day (High)

<u>Temporary Emergency Power Fuel Requirements (72 Hours to 2 Weeks)</u>		
132,037	80,457,936	123,476,066
Facilities	Gallons/Day (Low)	Gallons/Day (High)

<u>Temporary Emergency Power Fuel Requirements (> 2 Weeks)</u>		
37,725	22,987,982	35,278,876
Facilities	Gallons/Day (Low)	Gallons/Day (High)

Figure 2: Daily Fuel Transportation Requirement

Daily Fuel Transportation Requirement*

<u>Temporary Emergency Power Fuel Transportation Requirements</u>		
<u>(< 72 Hours)</u>		
No Requirement (Use On-Site Fuel)		

<u>Temporary Emergency Power Fuel Transportation Requirements</u>		
<u>(72 Hours to 2 Weeks)</u>		
132,037	8,940	13,720
Facilities	Tankers/Day (Low)	Tankers/Day (High)

<u>Temporary Emergency Power Fuel Transportation Requirements</u>		
<u>(> 2 Weeks)</u>		
37,725	2,554	3,920
Facilities	Tankers/Day (Low)	Tankers/Day (High)

Figure 3: Daily Fuel Consumption by Critical Facilities

Type of Facility	Critical Infrastructure Sectors	Generator Size	Fuel Requirement in Gallons (low)	Fuel Requirement in Gallons (High)
Fire Station	Emergency Services Sector	15-25 kW	25	42
Police Stations (local and State)	Emergency Services Sector	15-25 kW	25	42
Schools (shelters) private, public	Government Facilities Sector	200-300 kW	336	504
Hospitals	Healthcare and Public Health Sector	800 kW-2mW	1344	2000
Nursing Homes	Healthcare and Public Health Sector	100-200 kW	168	336
Urgent Care	Healthcare and Public Health Sector	200-300 kW	336	504
Prisons	Government Facilities Sector	400-600 kW	672	1008
Water Treatment Facilities	Water and Wastewater Sector	800kW-2mW	1344	2000
Transportation (public use)	Transportation Systems Sector	100-300 kW	168	504
Wastewater Treatment Facilities	Water and Wastewater Sector	800kW-2mW	1344	2000
Dialysis Centers	Healthcare and Public Health Sector	200-300 kW	336	504
Public Water wells	Water and Wastewater Sector	40-150 kW	67	252
Water/wastewater Pumping Stations	Water and Wastewater Sector	40-150 kW	67	252
EMERGENCY MANAGEMENT	Emergency Services Sector	15-25kW	25	42
Command Post	Emergency Services Sector	15-25kW	25	42
Medical Center	Healthcare and Public Health Sector	200-300	336	504
State Facility	Government Facilities Sector	100-200	168	336
Morgue	Healthcare and Public Health Sector	100-200	168	336
Detention Center	Government Facilities Sector	400-600	672	1008
Communications facilities (telephone cell towers)	Communications Sector	35-75 kW	59	126
Radio Towers	Communications Sector	35-75kW	59	126
Airport	Transportation Systems Sector	200-400kW	336	672
Port facilities	Transportation Systems Sector	600kW 1.2mW	1008	1200
Rescue facilities	Emergency Services Sector	15-25kW	25	42
911 Centers	Emergency Services Sector	15-25kW	25	42
FORMULA				
0.07 gallons x generator kW size x 24 hours				

International Assumptions

- Due to the United States' dependency on cross-border flows of energy resources to meet its total energy requirements and global flows of information, knowledge, and investment capital, a long-term power outage will have international implications.⁸

Mass Care/Emergency Services Assumptions

- Transportation limitations and supply chain disruptions make it difficult to open shelters, prepare food, distribute food and emergency supplies, and provide means for reunification services.
- Relocation of populations may occur if the power outage lasts for a significant period.
- A portion of the population have access and functional needs and are power dependent on medical equipment, devices and services outside hospital settings and must be supported during outages.
- Extremely hot or cold weather conditions will greatly increase the number of survivors unable to shelter at home during a prolonged outage.

⁸ Energy Sector-Specific Plan, 2015, pg. 22.

Power Restoration Assumptions

- Physical damage to electricity infrastructure may not be the primary hindrance to the restoration of power (e.g., power generation capabilities may be impaired due to a cyber incident).

Public Health and Medical Assumptions

- Critical health care facilities, sites such as hospitals, may have difficulty maintaining sufficient temporary emergency power and will face stress from a surge in care needs and potential degradation of services.

Supply Chain Assumptions

- Supply chains will be disrupted, affecting availability of resources.
- The Defense Production Act (DPA) may be activated at the discretion of federal agencies with the appropriate authority to expedite procurement and allocation of critical materials, services, and facilities, as needed or appropriate to respond to or recover from a power outage.

Critical Considerations (for Crisis Action Planning)

Critical considerations pertaining to the unique circumstances of a long-term power outage include, but are not limited to the following:

General Considerations

- Power operations outside the outage areas may be limited or degraded.
- Impacts to tribal lands and access for restoration activities may present unique challenges that require understanding of specialized authorities or approaches.
- The U.S. Government and states interconnected and affected by the power outages must coordinate restoration efforts as well as the issuance of emergency orders to the electric industry and utilities based on jurisdictional boundaries and limitations within the federal and state laws.
- Mutual aid resources among investor-owned, public power, and cooperative utilities may be overextended.
- Water and wastewater operations will be hindered and affect the delivery of some key services.
- Lack of inclusion for people who depend on power to sustain life or to maintain quality of life, health, safety, and independence unnecessarily places people who need assistance in a higher category of risk and increases likely rescue and response requirements.

Agriculture and Natural Resources Considerations

- Animal and agriculture operations (including agriculture, aquaculture, zoos, aquariums, animal research facilities, and animal breeding and sheltering facilities) rely on power for the provision of food and water to animals and to ventilate, maintain inside temperature, and remove waste products from animal housing areas.

Continuity of Operations and Government

- Robust continuity programs and capabilities mitigate impacts to the performance of essential functions, core capabilities, and critical services, as well as expedite the recovery and full resumption of impacted operations.
- Public and private sector organizations impacted by long-term power outages will require the activation of continuity plans to sustain essential functions and provide critical services to the affected population, and to ensure continuity of government at all levels.
- Federal or local, state, tribal, territorial government essential functions performed from primary or alternate locations will rely on backup power support, which may be limited.
- Decision-making and coordination processes among government official and with the heads of public and private critical infrastructure sectors and other non-governmental organizations are necessary to ensure support to response and recovery efforts. This coordination will require resilient communications capabilities.

Economic Considerations

- Economic impacts may not be initially apparent, but may appear over a longer period and last for months or years. As a result, the Federal Government may provide long-term recovery assistance for months or years at an enormous cost. (Refer to the NDRF for specific types of long-term recovery assistance that may be available.)
- Individuals affected by the incident and by evacuation orders will likely be cut off from income and will need social services support.

Environmental Considerations

- Environmental issues that occur due to a long-term loss of power may include water contamination and spoilage of food sources.

Fuel/Generator Considerations

- Fuel will need to be prioritized for distribution and use based on requirements, such as the number of available generators, number of CI facilities requiring fuel or generators, and fuel consumption.
- The provision of temporary emergency power to a CI facility is not the sole factor in returning the facility to normal operating status (e.g., lack of supplies, time to restart operations).
- Even with adequate fuel stocks, distribution and delivery shortfalls may still limit the ability to refuel in place.
- The failure rate of backup generators will increase to approximately 15 percent after 24 hours of continuous use.
- Backup generators at some CI facilities may not be tested frequently or maintained consistently, which may result in equipment failures

- Diesel fuel stored for more than 12 months begins to form sediments and gums. Diesel fuel used after it has exceeded its shelf life will increase the likelihood of damage to the generator.
- Use of points of distribution (PODs) may not be a feasible approach for providing fuel to critical CI facilities at fixed locations. As a result, a fuel delivery strategy will need to take into account daily fuel transportation requirements.

Mass Care/Emergency Services Considerations

- Power support will be needed for selective delivery of emergency services to high-density areas or populations of people who need assistance evacuating.
- The public may have difficulty reaching 9-1-1 emergency services if communications backup battery power systems fail due to an extended loss of electricity.
- Large numbers of survivors in areas where power outages are projected to be long term may relocate to areas where power and resources are available. Therefore, people whose homes are not damaged may require housing assistance and coordination with the private sector for innovative accessible housing solutions.
- A decision to evacuate large populations to an area out of the impact area could require significant resources.
- Temporary housing assistance may be required for essential personnel in impacted areas who cannot stay in their own homes.

Public Health and Medical Considerations

- Healthcare services typically operate on just-in-time inventory, which may affect patient care.
- Individuals who rely on durable medical equipment and implantable devices requiring either electric power or battery recharging may lose their life-sustaining independence and overwhelm healthcare facilities if the power is out for more than a few days.
- Dialysis centers generally do not have backup generators, but often operate within a network and may shift patients to other local network facilities if they have power, essential medical staff and patient public and accessible transportation services are available and costs are not prohibitive.
- Health systems must plan for crisis standards of care and scarce resource utilization during mass power outages.
- A segment of the population in the United States operates power-dependent durable medical equipment and, as a result, is unable to self-relocate during a mass power outage.

Law Enforcement Considerations

- Actual criminal activities and rumored lawlessness will contribute to public safety fears, which may affect response of recovery efforts.

- The loss of power and impacts on communications, financial services, food, and water will attract certain criminal activities (i.e., theft and looting). Law enforcement officers will need to establish and visibly demonstrate a robust law enforcement presence.

Mission

The end state for response and recovery during a long-term power outage includes the following:

- Federal lifesaving and life-sustaining assistance to local, state, tribal, territorial, and insular area entities is completed.
- Basic services, public safety, and community functionality are restored and long-term recovery measures are in place to enable full restoration of power and the economy.
- Any displaced populations have returned home or been relocated to permanent accessible housing.
- The logistics supply chain for mass care/emergency assistance and life-sustaining support to survivors and infrastructure restoration missions can meet demand.
- Measures are in place to enable full revitalization of power systems, to include sustainability and resilience enhancements, where feasible.
- Economic and business activities are returned to a healthy state.
- Health and social services systems are restored to promote the resilience, health (including behavioral health), independence, and well-being of the whole community.
- Public safety and health protection assurances have been made.
- Environmental impacts are mitigated.
- National essential functions and all primary mission essential functions are restored.⁹
- Resource requirements for sustainable asset owner CI operations have been sufficiently met for reliable power delivery.
- Management of federal long-term recovery support shifts to the appropriate steady state managers (e.g., regional, district, or similar local office).

Execution

When the overall coordination of federal incident response and recovery activities is required, per Homeland Security Presidential Directive 5 (HSPD-5), the Secretary of Homeland Security coordinates with federal entities to provide for federal unity of efforts for domestic incident

⁹ Per *Presidential Policy Directive 40, National Continuity Policy*, National Essential Functions (NEF) refer to the subset of national functions that are necessary to lead and sustain the Nation during a catastrophic emergency. Primary Mission Essential Functions refer to those federal government functions that must be performed to support or implement the performance of NEFs before, during, and in the aftermath of an emergency.

management. The FEMA Administrator, as the principal advisor to the President, the Secretary of Homeland Security, and the Homeland Security Council regarding emergency management, assists the Secretary in carrying out Stafford Act response and recovery operations. Other federal departments and agencies carry out their responsibilities consistent with applicable policy and statutory authorities. Actions within this annex supplement the concept of operations in the Response and Recovery FIOPs.

Concept of Operations

Response and recovery support to mitigate the cascading effects from a long-term power outage will require a coordinated effort involving the appropriate local, state, tribal, territorial, insular area, and federal governments, NGOs, and private sector partners. federal coordination centers, agency operations centers, and agency teams provide their own logistical support consistent with agreed-upon interagency and agency-specific execution plans. State and local governments are encouraged to coordinate with federal efforts yet maintain their own logistical support, when possible, in accordance with applicable authorities and requirements. The concept of support is consistent with Response and Recovery FIOP principles.

The premise for this annex is that a power outage affects multiple FEMA Regions or states and leaves millions of customers without power for an extended period of time. Some areas are likely to get power restored in a few weeks, but the overall outage will last much longer in other areas. Therefore, federal support to local, state, tribal, territorial, and insular area governments in a long-term power outage will follow a triage approach, utilizing limited resources to achieve the most positive impact for the largest number of people.

- Resources will maintain infrastructure in areas where power is expected to be restored in two weeks or less. This will reduce the cascading impacts of power loss, maintain or facilitate quicker restoration of essential services, and prepare regions to accept survivors self-evacuating from areas suffering long-duration outages.
- In tandem with these activities, emergency resources and services will be selectively delivered to areas with the longest projected duration of power loss that have a high population density or a significant number of survivors who either choose not to self-evacuate or need assistance with evacuating.

For a majority of incidents meeting the assumptions of this annex, Federal Government core capabilities and resources will be initially prioritized to meet following objectives:

- Facilitate power restoration and maintain other CI within geographic regions where it is anticipated that power will be restored in two weeks or less.
- Stabilize and sustain CI in geographic regions that suffer the next shortest duration of power outages.

- Provide mass care services and resources to support states and tribal nations conducting the mass evacuation of survivors, including people with disabilities and those with access and functional needs.¹⁰
- Provide mass care/emergency assistance services to those self-evacuating.
- Selectively deliver emergency services to high-density areas or vulnerable populations who are unable to evacuate.
- Provide law enforcement support to establish and maintain public safety and security to ensure a safe environment for infrastructure restoration.

This approach prepares areas to accept evacuees, sustains CI to reduce the cascading impact of power loss, allows for essential service restoration, and complies with the FEMA Catastrophic Housing Annex to the Response FIOP.¹¹

As part of the crisis action planning process during an actual long-term power outage, this course of action and these priority objectives will be reviewed and refined based on the particulars of the incident.

Tiered Response

This annex is founded on the principle of tiered response or the understanding that most incidents are handled at the lowest possible jurisdictional level. As resources and capabilities are exceeded, additional SLTT, insular area, and federal assets are applied. In the case of the electricity industry, restoration starts with the electric companies.

A key component of tiered response is mutual aid and assistance. Local communities and states have mutual aid compacts in place to share critical resources across jurisdictional boundaries in a timely manner. Likewise, companies in the electric industry have formal agreements with one another to share resources as the capabilities are exceeded.

Private and Public-Sector Utility Assistance

Each segment of the electric industry is prepared to coordinate and provide assistance for national-level catastrophic incidents. As such, the electric industry has a tiered response structure that evolves from small, localized incidents, to larger incidents requiring support from neighboring or regional utilities, to incidents that require national support and oversight. For example, Edison Electric Institute (EEI), an association of investor-owned electric companies, has developed a formal designation of National Response Event (NRE) to explain a natural or manmade event that is forecasted to cause or that causes long-term power outages affecting a significant population or several regions across the United States and requires resources from multiple regional mutual assistance groups. The term NRE is unique to the members of EEI, but the general principle of regional mutual aid and the elevation of incidents applies across the various utility companies, municipally owned electric systems, and co-ops.

Top priorities for the electricity subsector include:

¹⁰ It is important for preparedness planning to account for inclusive accessible transportation for evacuation, to ensure individuals with communications and physical access barriers are taken into consideration.

¹¹ https://www.fema.gov/media-library-data/20130726-1854-25045-3570/catastrophic_housing_annex.pdf

- Identifying and leveraging mutual aid resources;
- Coordinating and deploying response resources in a safe, efficient, and equitable manner;
- Providing public messaging (in accessible and alternate formats, when possible); and
- Responding with unity of effort.

When there is an electrical outage that affects large portions of the Nation, the utility companies use their internal coordination mechanisms to identify requirements and organize mutual aid. Mutual assistance is an essential part of the electric power industry's service restoration process and contingency planning. Electric companies impacted by a major outage event are able to increase the size of their workforce by "borrowing" restoration workers from other utilities. Below are some examples of mutual aid assistance compacts and national programs to assist energy sector owners and operators in sharing or procuring equipment and assistance in a disaster.

- **American Public Power Association (APPA) Mutual Aid Network** – Formalized in 2013, APPA leads the Mutual Aid Network for public power utilities, state associations, and joint action agencies. The Public Power Mutual Aid Playbook includes a national mutual aid agreement signed by more than 2,000 public power utilities and rural electric cooperatives, connecting utilities so they can help each other in times of need. Each of the ten APPA regions, which match the ten FEMA Regions, has appointed a Public Power Network Coordinator to each state who works with utilities in relevant regions on coordinating any needed support. The network ensures a coordinated response with state and federal government officials and outlines roles and responsibilities of utilities, Network Coordinators, and National Coordinators. In steady state, APPA's Mutual Aid Working Group (MAWG) works to refine plans and procedures to enhance preparedness response.
- **Investor-Owned Electric Company Mutual Assistance** – The Nation's investor-owned utilities, who are members of EEI, coordinate their mutual assistance efforts at a regional level through seven Regional Mutual Assistance Groups (RMAG). Some RMAGs also have municipal and cooperative utilities as members. When a member determines that it needs restoration assistance, it initiates a request through a RMAG. When a RMAG is unable to meet its resource needs, it can coordinate with adjacent RMAGs to obtain additional mutual assistance restoration resources. Following a power outage that requires a national response and upon request from an EEI chief executive officer, all RMAGs are activated and all of the available resources will be allocated at the national level using EEI's NRE Framework.¹² A National Response Executive Committee, consisting of senior-level member company executives from all regions of the country, will determine if a NRE activation is warranted and will activate EEI's National Mutual Assistance Resource Team (NMART). The NMART evaluates mutual assistance requests and assigns available resources to affected companies in coordination with the RMAGs.

¹² http://www.eei.org/issuesandpolicy/electricreliability/mutualassistance/Documents/MA_101FINAL.pdf

- **Electric Cooperative Mutual Assistance Network** – Rural electric cooperatives adhere to the principal of Cooperation Among Cooperatives.¹³ The backbone of the Electric Cooperative Mutual Assistance Network is the collective of statewide organizations that operate in virtually all 47 states in which electric cooperatives serve. The statewide organizations are the conduit through which individual electric cooperatives request and receive help, as well as make offers of assistance to their fellow cooperatives. The National Rural Electric Cooperative Association (NRECA), the national organization representing electric cooperatives on federal regulatory and legislative issues, developed a Mutual Assistance Agreement in collaboration with APPA. This document forms the basis for providing mutual assistance between and among electric cooperatives and municipally owned electric systems. As needed, the statewide organizations activate the Cooperative Mutual Assistance Network and conduct conference calls to discuss requirements and mutual aid support.
- In 2006, the FERC approved the **Spare Transformer Equipment Program (STEP)**, an electric industry program that strengthens the sector's ability to restore the Nation's transmission system more quickly in the event of a terrorist attack. Any electric utility that owns transformers in the United States or Canada, including an investor-owned utility, a government-owned utility, or a rural electric utility, is eligible to participate in the program.¹⁴ Under the program, each participating electric company is required to maintain a specific number of transformers. STEP requires each participating utility to sell its spare transformers to any other participating utility that suffers a "triggering event" (an act of terrorism that destroys or disables one or more substations and results in the declared state of emergency by the President of the United States). In addition to the investor-owned STEP program, several other spares programs and many bilateral and multilateral agreements are in place between utilities for spare transformer sharing and leveraging.
- **SpareConnect** – The SpareConnect Program provides an additional mechanism for Bulk Power System (BPS) asset owners and operators to network with other SpareConnect participants concerning the possible sharing of transmission and generation step-up transformers and related equipment, including bushings, fans, and auxiliary components. SpareConnect establishes a confidential, unified platform for the entire electric industry to communicate equipment needs in the event of an emergency or other non-routine failure. SpareConnect complements existing programs, such as the STEP and voluntary mutual assistance programs, by establishing an additional, trusted network of participants who are uniquely capable of providing assistance concerning equipment availability and technical resources. This program does not create or manage a central database of spare equipment. Instead, SpareConnect provides decentralized access to points of contact at power companies so that, in the event of an emergency, its participants are able to connect quickly with other participants in affected voltage classes.

¹³ The Seven Cooperative Principles are Voluntary and Open Membership; Democratic Member Control; Members' Economic Participation; Autonomy and Independence; Education, Training, and Information; Cooperation Among Cooperatives; and Concern for Community.

¹⁴ *Order on Application for Blanket Authorization for Transfers of Jurisdictional Facilities and Petition for Declaratory Order*, September 22, 2006. <https://www.ferc.gov/whats-new/comm-meet/092106/E-13.pdf>

- **GridAssurance™** is an independent organization formed by six energy companies that provides subscribers with a readily available inventory of equipment at secure, strategically located warehouses in the United States. The company also offers logistics support to facilitate expedited delivery of the equipment to affected sites following a qualifying event. Subscription to GridAssurance's inventory and services is open to all transmission owners.

State-to-State Assistance

State and local governments have a unique role in energy assurance because they represent the front lines of protection and the face of public services to citizens during an emergency. They also have a primary responsibility to coordinate with and make recommendations or requests to industry on prioritizing restoration of electric service to critical facilities. Public power utilities have local, state, and regional contracts and agreements in place to render mutual aid. In the event that additional state-level resources are required, the state will generally request assistance from other states by using interstate mutual aid and assistance agreements such as the Emergency Management Assistance Compact. The governor of any state impacted directly or indirectly by the consequences of a long-term power outage may activate elements of the National Guard to support state domestic civil support functions and activities.

Requesting Federal Assistance

When an incident overwhelms or is anticipated to overwhelm state resources, the governor or chief tribal executive may request federal assistance from the President. In such cases, the affected local, state, tribal, territorial, or insular area and the Federal Government will collaborate to provide the necessary assistance. The Federal Government may provide assistance in the form of funding, resources, and critical services.

Federal Support

Federal support for the impacts from a long-term power outage depends on a variety of factors including, but not limited to, the following:

- Whether a major disaster or emergency declaration has been issued by the President;
- The capability and resources of public and private utilities, as well as SLTT or insular area governments in the affected areas;
- Federal agency operational agreements with states;
- Availability of organic federal resources and private sector resources which the federal government relies upon;
- Statutory authorities and parameters consistent with the adjudication process (case-by-case basis);
- Magnitude and duration of the outage (e.g., number of persons affected combined with length of time without power; number and type of CI affected; projected length of outage); and
- Specific federal department and agency roles and statutory authorities.

When a long-term power outage occurs and exceeds (or is anticipated to exceed) local, state, tribal, territorial, or insular area capabilities, it is anticipated that governors or chief tribal executives will seek federal assistance under the Stafford Act. The Stafford Act authorizes the President to provide financial and other disaster and emergency assistance to local, state, tribal, territorial, and insular area governments; certain private not-for-profit organizations; and individuals to support response, recovery, and mitigation efforts following a Presidential emergency or major disaster declaration. The specific types of assistance under the Stafford Act that the Federal Government may provide depend on a variety of factors, to include whether utilities are publicly or privately owned within the impacted communities.

- **Investor-Owned or For-Profit Utilities** – The private sector owner and operator is the primary entity responsible for all power restoration requirements. The Federal Government does not provide support to investor-owned for-profit utilities under the Stafford Act. However, in rare instances and on a case-by-case basis, the Federal Government may provide certain support to investor-owned for-profit entities for an exceptionally limited period for life-saving or life-sustaining missions, at the request of a local, state, tribal, or territorial government. The Federal Government may consider regulatory relief for private institutions and should synchronize its operations to enable, support, and otherwise not contradict private sector restoration operations.
- **Municipal, Cooperative or Not-For-Profit Utilities** – In addition to federal support to survivors and their communities, the Federal Government may provide assistance to the public utility through the applicable state, tribal, territorial, or insular area to enable its power generation and distribution requirements and support restoration operations. These utilities are eligible for public assistance under the Stafford Act. Figure 4 provides examples of the types of support potentially available to public utility companies.

Figure 4: Order on Application for Blanket Authorization for Transfers of Jurisdictional Facilities and Petition for Declaratory

On August 2, 2015, Typhoon Soudelor made landfall in Saipan causing extensive damage. It was the worst storm to strike Saipan in the Northern Mariana Islands in nearly 30 years. Hundreds of homes were either damaged or destroyed, and power was expected to take a month to restore. As a result, a joint Commonwealth/Federal Power Task Force was established to support the Commonwealth Utility Company (CUC) in the restoration of power and the people of Saipan in dealing with the impacts to critical services. The CUC continued to set priorities and manage power delivery through power system restoration, placement of generators, and routing of power to key facilities. The Task Force collectively worked to accomplish the restoration priorities established by the CUC.

In addition to providing mass care and emergency services such as shelter, meals, and potable water, the Federal Government provided support to CUC to enable power restoration. Examples included:

- Joint crisis action planning;
- Installation of generators at critical facilities, water and wastewater stations in particular;
- Acquisition and airlift of replacement power poles from other islands;
- Debris and route clearances; and
- Acquisition of other restoration-related resources such as bucket trucks, augers, and pole trucks.



While restoration of power is the responsibility of electric companies, the Federal Government may be requested to provide services to enable the power restoration process, as well as the delivery of essential services, through the facilitation of policy decisions and resource prioritization. Examples of federal support that may be provided include, but is not limited to, the following:

- Enforcement of road closures, public safety, and security at access points;
- Debris removal (if warranted) to enable utility companies to more quickly access damaged equipment;
- Coordination with all of the CI sectors to understand the interdependencies with the electricity subsector and resulting cascading effects on other sectors and businesses; or
- Logistical support for mass care and emergency assistance services and power generation equipment to enable continuity of essential services.
- Employment of the DPA, as required.

Coordination of Federal Support

The principles in the NRF and NDRF, and the actions in the Response and Recovery FIOPs, are the primary mechanisms to coordinate the Federal Government's response and recovery to terrorist attacks, major disasters, and other emergencies. As such, they form the basis of federal support to the impacts from a power outage. Nothing in these documents alters or impedes the ability of government departments and agencies to carry out their specific authorities or perform their responsibilities under all applicable laws, executive orders, and directives. Individual

federal departments and agencies have responsibilities for various aspects of a coordinated federal response to a power outage.

- **Department of Homeland Security** – The Secretary of Homeland Security is the principal federal official for domestic incident management. Pursuant to the Homeland Security Act of 2002, the Secretary is responsible for coordinating federal operations within the United States to prepare for, respond to, and recovery from terrorist attacks, major disasters, and other emergencies. The Secretary coordinates with federal entities to provide for federal unity of efforts for domestic incident management.

The FEMA Administrator is the principal advisor to the President, the Secretary of Homeland Security, and the Homeland Security Council regarding emergency management. The FEMA Administrator's duties include assisting the President, through the Secretary, in carrying out the Stafford Act; operating the National Response Coordination Center (NRCC); effectively supporting all Emergency Support Functions (ESF) and Recovery Support Functions (RSF); and, more generally, preparing for, protecting against, responding to, and recovering from all-hazards incidents.

- Within DHS, the National Protection and Programs Directorate (NPPD) serves as the federal coordinator of SSAs and CI.
- **Department of Energy** – DOE is the SSA and lead federal agency for the energy sector. DOE is also responsible for coordinating the energy sector's emergency preparedness requirements. Under the authority of the Secretary of Energy, DOE directs ESF #12 – Energy activities for the energy sector under the NRF. Additionally, DOE is responsible for leading, facilitating, or supporting the security and resilience programs and associated activities of the energy sector in the all-hazards environment and coordinating the preparation and implementation of the Energy Sector-Specific Plan as an annex to the National Infrastructure Protection Plan (NIPP). The Secretary of Energy is responsible for helping to acquire equipment and trained personnel for the energy sector from other nations as appropriate and for sector coordination with North American partners in Canada and Mexico. Under the 2015 Fixing America's Surface Transportation (FAST) Act (P.L. 114-94), the Secretary of Energy is authorized to order emergency measures to protect or restore the reliability of critical electrical infrastructure or of defense critical electric infrastructure upon a Presidential finding of a Grid Security Emergency. This authority allows DOE to support the energy sector for and responding to cyber, electromagnetic pulse, geomagnetic disturbance, and physical attack threats.
- **Department of State (DOS)** – DOS is responsible for all communication and coordination between the United States Government and other nations regarding the response to a domestic crisis. Consistent with the International Coordination Support Annex to the NRF, DOS may also be required to assist private industry during a domestic incident by expediting specifically requested equipment, goods, or trained personnel to enter the United States and assist with non-energy related assistance.
- **Department of Defense (DOD)** – DOD is responsible for providing military forces and certain intelligence capabilities to deter war and to protect the security and national interests of the United States. The Secretary of Defense may assist in the support of domestic infrastructure and essential government services or, at the direction of the

President and in coordination with the Attorney General, the maintenance of civil order or law enforcement, in accordance with applicable law. The Secretary of Defense will retain command of Title X military forces providing support.

- **Other Federal Departments and Agencies** – Various federal departments or agencies play primary, coordinating, or support roles in delivering response and recovery core capabilities. Some departments also serve as SSAs for a CI sector. In some circumstances, other federal agencies may have a lead or support role in coordinating operations, or elements of operations, consistent with applicable legal authorities. For all incidents, to include a long-term power outage, federal department and agency heads serve as advisors for the Executive Branch relative to their areas of responsibility.
- Several federal departments and agencies have authorities to respond to and declare specific types of disasters or emergencies. These authorities may be exercised independently of, concurrently with, or become part of a federal response coordinated by the Secretary of Homeland Security.

Appendix 4: Roles and Responsibilities provides a detailed list of unique power-related responsibilities for all members of the whole community.

International Support

The energy sector relies on the import of critical technologies and equipment, such as large power transformers (LPTs), as well as many key raw materials that are essential to the manufacturing of certain electrical infrastructure. As such, a long-term power outage will have international implications that may include, but are not limited to, travel restrictions into and out of the United States, processing of visas or other immigration documents, customs and border security, and support to United States citizens living abroad.

DOS is responsible for communication and coordination between the Federal Government and other nations regarding the response to a domestic crisis. Consistent with the NRF and Response FIOP, DOS coordinates with foreign governments concerning travel restrictions or issues, facilitates offers of assistance from foreign governments through the International Assistance System, and coordinates assistance to cross-border communities. DOS also maintains communication with the Electricity Information Sharing and Analysis Center (E-ISAC), the North American Electric Reliability Corporation (NERC), DOE's Office of Intelligence and Counterintelligence and Office of International Affairs, and the National Council of ISACs to share cyber and physical threats, vulnerabilities, and incidents for the electricity subsector which involve international dimensions or elements.

Agencies other than DOS do have authorities pertaining to international partners. For example, DOE, FERC, NERC, and North America's Electric Reliability Organization (ERO), have authorities and responsibilities outside of the United States involving energy infrastructure and resources with Canada and Mexico. When there is a domestic crisis resulting in international energy-related impacts, these entities coordinate and consult with DOS to ensure consistent messaging.

Operational Coordination

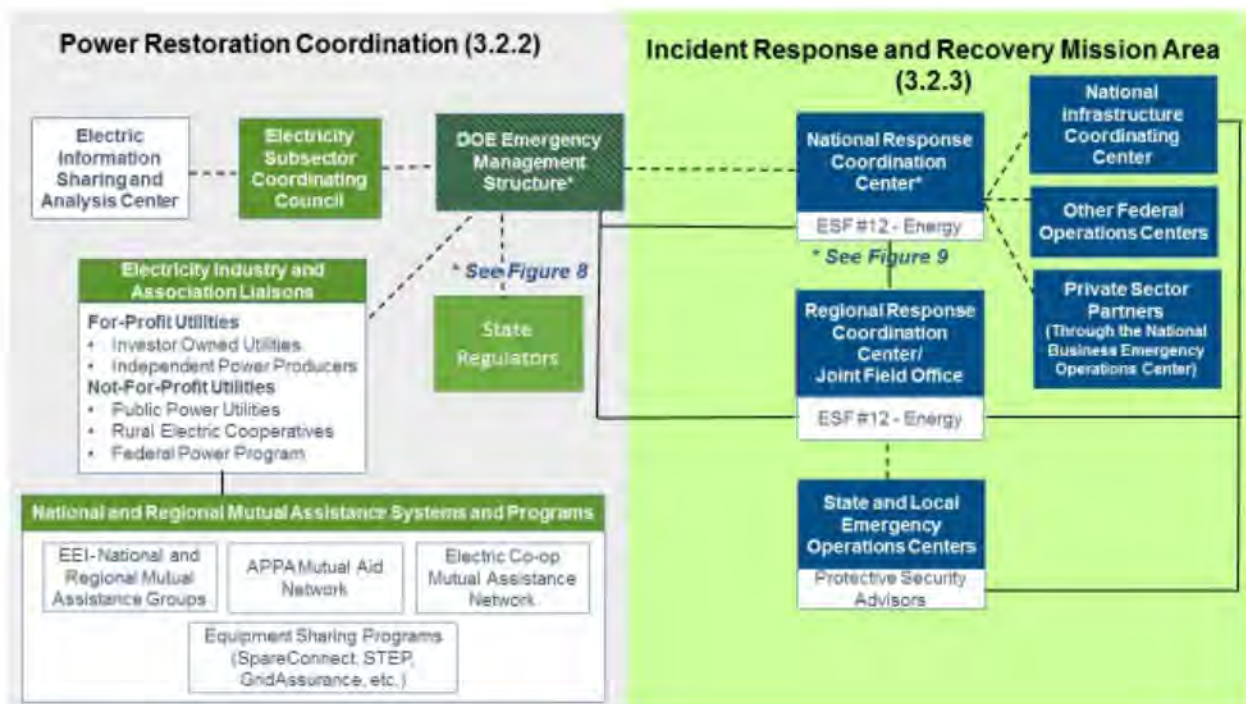
Several support and operational coordination elements facilitate operational coordination and information sharing during a power outage incident. Depending on the cause of the outage, this construct is scalable and flexible. As a result, scenario-specific coordinating structures may be utilized in addition to the entities listed below. For example, if the outage is a result of a significant cyber incident, the Federal Government organizes coordinating structures three ways—national policy-level coordination through a cyber response group, operational coordination through the DHS National Cybersecurity and Communications Integration Center (NCCIC) and Federal Cyber Centers, and sector coordination through the DHS NPPD Office of Infrastructure Protections and SSAs. In these situations, additional coordination structures are integrated into a unified coordination construct as necessary.

Unified Coordination

A long-term power outage may involve many states or FEMA Regions and require coordination and prioritization of national-level resources. This annex applies the concept of unified coordination at the NRCC and among federal departments and agencies to coordinate federal support to multiple Unified Coordination Groups (UCG) at Joint Field Offices (JFO) established for this incident. The unified coordination approach helps various levels of government and the private sector supporting the incident to work together to establish a common set of priorities, objectives, and strategies. Unified coordination provides a vital means of coordinating the allocation or reallocation of scarce resources across the entire incident according to a common set of priorities. It also enables effective coordination across restoration activities led by DOE and incident response activities led by FEMA, as depicted in Figure 5.

A significant power outage will affect all CI sectors, requiring public-private partnerships with their respective owners and operators to prioritize and enable the restoration process, manage cascading impacts, and mitigate future risks. The appropriate ESF and RSF shall facilitate coordination with each sector, often through the relevant SSA, and utilizing existing public-private partnerships to the greatest extent possible.

Figure 5: Unified Coordination Between Power Restoration and Incident Response and Recovery Mission Area



Power Restoration Coordination

Federal Power Restoration Coordination

DOE uses established processes and structures unique to the energy sector, as the lead for restoration. Restoration is the primary responsibility of the utility industry. However, coordination between the restoration and incident response and recovery components is critical to enable their success. For information on the restoration process, refer to DOE's United States Electricity Industry Primer.

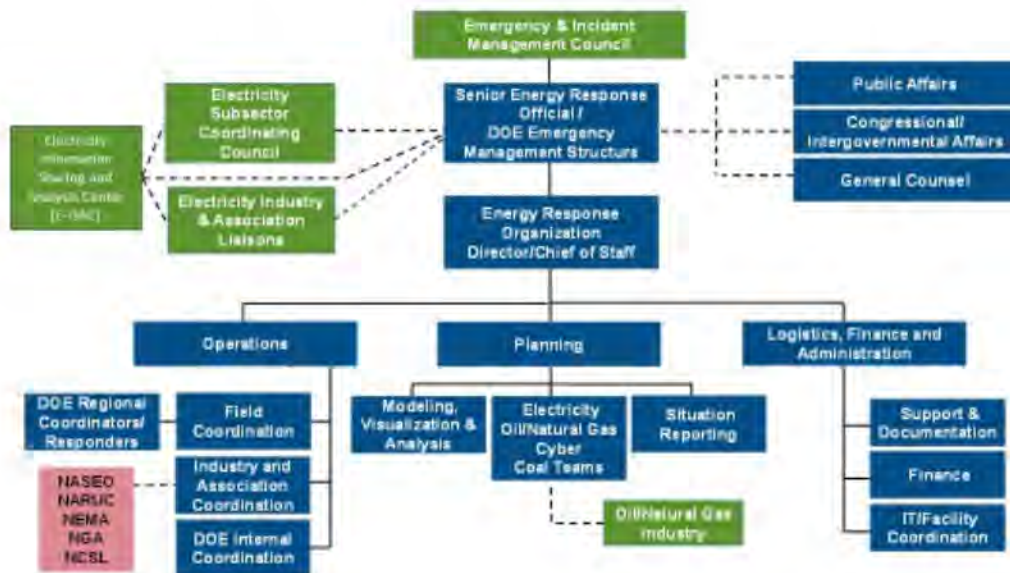
Department of Energy Emergency Management Structure – Similar to the UCG concept in the NRF, DOE uses a department-wide coordination structure to address major, energy incidents across all of its programs and stakeholders. The DOE emergency management structure directs operational activities across the department to ensure DOE utilizes existing resources, expertise, and authorities and that directives are carried out to the fullest extent possible. Should a resource or restoration prioritization issue need to be resolved, the Secretary of Energy will make that decision in close coordination with the NRCC and in consultation with the electricity industry. The DOE emergency management structure also provides situational awareness to energy sector owner/operators; local, state, tribal, territorial, and insular area governments; DOE leadership; the federal interagency; and the White House.

Energy Incident Management Council – The Secretary of Energy directs the establishment of the Energy Incident Management Council to increase cooperation and coordination across the Department to prepare for, mitigate, respond to, and recover from major disruptions to energy systems (including infrastructure, supply, and services). The council utilizes the authorities and

expertise from across the department to anticipate impacted and future requirements, provide a rapid, integrated DOE assessment of an incident, adjudicate conflicting views or information, enable an effective response by the sector, develop mitigation options for decision makers, and provide a unified, comprehensive voice and set of actions for the Department.

The Council will serve as the primary DOE coordination mechanism for senior department leadership during an energy emergency. Energy emergencies include any potential or actual disruption to energy infrastructure by a natural disaster, an industrial accident, a threat actor (cyber or physical), or an energy crisis or shortage.

Figure 6: DOE Internal Unified Coordination Structure



National-Level Industry Power Restoration Coordination

Electricity Subsector Coordinating Council

The Electricity Subsector Coordinating Council (ESCC) facilitates and supports the coordination of sub-sector wide, policy-related activities and initiatives to improve the reliability and resilience of the electricity sub-sector, including physical and cyber security infrastructure and emergency preparedness. It serves as the principal liaison with the Government Coordinating Council (GCC) for energy and its member federal agencies (including DOE as the SSA for the energy sector) and federal utilities on issues pertaining to joint planning, preparedness, resilience, and recovery related to incidents that may affect the secure and resilient supply and delivery of electricity. The ESCC's role during its "crisis state" is to provide the mechanism for

executive coordination and communication between the electric power industry and government during the response to and recovery from an event of regional or national significance.¹⁵

The ESCC Secretariat communicates with the ESCC leadership, the ESCC Steering Committee, and the E-ISAC, as well as with government liaisons, to request activation of a Federal Government-industry coordination group.

Electricity Information Sharing and Analysis Center

The E-ISAC, operated by the NERC, establishes situational awareness, incident management, coordination, and communication capabilities within the electricity sector through timely, reliable, and secure information exchange. The E-ISAC, in collaboration with the DOE and the ESCC, serves as the primary security communications channel for the electricity sector and enhances the sector's ability to prepare for and respond to cyber and physical threats, vulnerabilities, and incidents. The E-ISAC coordinates with the Electric Subsector Coordinating Council made up of industry trade associations such as EEI, APPA, and NRECA, as well as other industry groups.

During a long-term power outage, the E-ISAC—

- Closely aligns with the ESCC to keep it informed and help implement sector response and coordination intent with unity of effort and message.
- Provides representatives to the NRCC and UCG.
- Receives incident data from private and public entities.
- Coordinates with member companies.
- Identifies, prioritizes, and coordinates the protection of critical power services, infrastructure service, and key resources.
- Assists DOE, the FERC, and DHS in analyzing event data to determine threat, vulnerabilities, trends, and impacts for the sector, as well as interdependencies with other CI entities.
- Analyzes incident data and prepares reports based on subject matter expertise in security and the BPS and grid system.
- Shares threat alerts, warnings, advisories, notices, and vulnerability assessments with the industry subject to prior notification to FERC, as appropriate.
- Coordinates with other ISACs, as well as local, state, tribal, territorial, insular area, federal, and international partners on incident-specific issues.
- Develops and maintains an awareness of private and governmental infrastructure interdependencies.

¹⁵ The ESCC defines a crisis state when an incident possesses the following three characteristics. (1) National engagement by the industry and federal government is needed to respond to (2) an event of regional or national significance that (3) exceeds established private or public subsector capabilities (e.g., resources, communication, coordination).

- Provides an electronic, secure capability for E-ISAC participants to exchange and share information.
- Provide technical sector coordination support aligned to ESCC intent.

Energy Emergency Assurance Coordinators

Established in 1996, the Energy Emergency Assurance Coordinators (EEAC) Program is a cooperative effort among DOE, the National Association of State Energy Officials, the National Association of Regulatory Utility Commissioners, the National Emergency Management Association, and the National Governors Association. The program facilitates coordination and communication between states, industry, and DOE and provides states and local communities access to information on energy supply, demand, pricing, and infrastructure (e.g., petroleum, electricity, natural gas, and heating oil). Administered by DOE, the EEAC establishes a secure communications environment that consists of a restricted access website, database, and distribution list for state government personnel. During a power disruption, the EEAC provides points of contact to share energy-related information. In addition, states can also use the EEAC regional distribution list to send information to their counterparts within the region (or different regions) to exchange information and share best practices, as well as request information.

Regional/Local-Level Industry Power Restoration Coordination

As noted in Private and Public-Sector Utility Assistance section, public and private utility associations have established regional mutual aid groups and compacts. The regional footprint of each of these groups is unique based on their stakeholders. Appendix 4: Roles and Responsibilities provides more information on these associations. As the energy sector SSA, DOE communicates with individual utilities and associations through various mechanisms and provides utility assessments and the status of their activities and resources to the Regional Response Coordination Center (RRCC), NRCC, and NICC, as appropriate, and through DOE Situation Reports.

Headquarters-Level Operational Coordination

The responsibilities of various government agencies under the NRF are an important element of intra-governmental cooperation during an energy emergency or other significant event. The coordination of federal incident response and recovery support to local, state, tribal, territorial, and insular area officials, is led by FEMA during Stafford Act incidents.

Interagency Response and Recovery Coordination

This section describes the coordinating structures that the Federal Government uses to provide response and recovery support to SLTT and insular area officials to deal with the consequences of a long-term power outage.

National Response Coordination Center

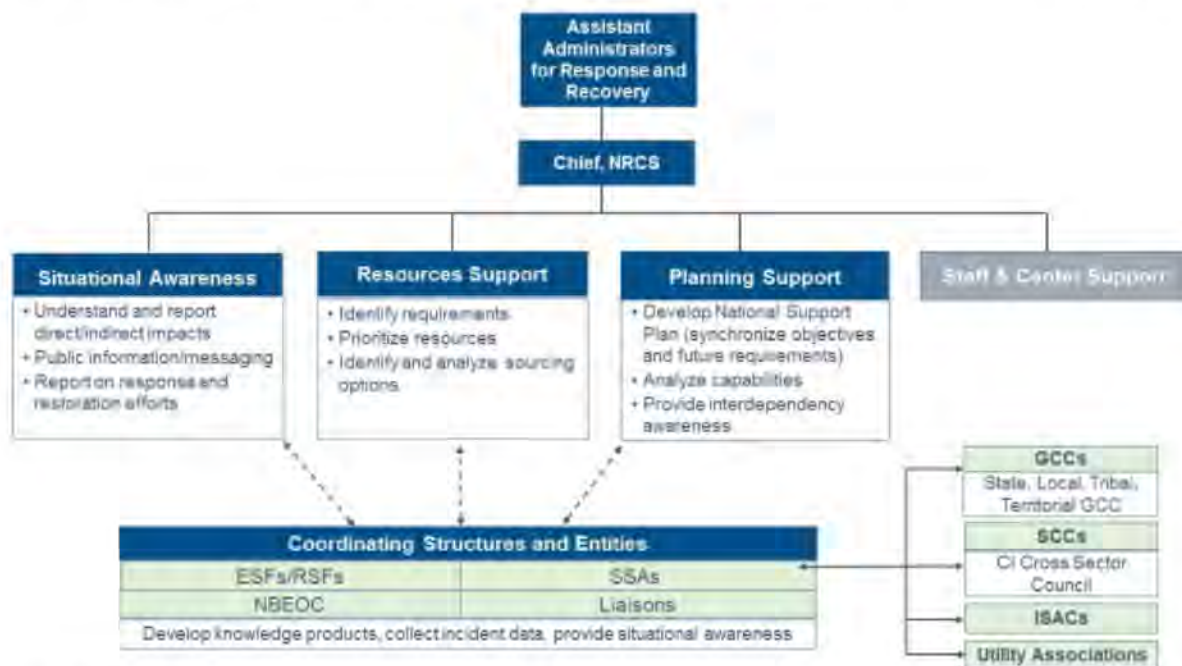
The NRCC at FEMA Headquarters serves as the national incident response and recovery coordination center, collecting and reviewing all source information across all threats and all hazards information during a long-term power outage. The National Response Coordination Staff (NRCS) is the headquarters-level entity through which federal response and recovery support is

coordinated and through which national-level response and recovery resource decisions are made. Figure 7 portrays the coordination within the NRCC.

- **Emergency Support Functions/Recovery Support Functions** – The Federal Government organizes response resources capabilities under the ESF construct denoted in the NRF and Response FIOP. The ESFs are the primary, but not exclusive, federal coordinating structures for building, sustaining, and delivering the response core capabilities.

Consistent with the NDRF and the Recovery FIOP, the Federal Government uses RSFs to coordinate key functional areas of recovery support. The synchronization of federal response and recovery support operations and facilitation of restoration efforts with the private sector is facilitated through each of the 16 CI sectors, in coordination with the relevant ESF or RSF, as required.

Figure 7: Coordination within the NRCC for Cascading Impacts from a Long-Term Power Outage



- **Future Planning Cell** – The FEMA Administrator may establish a planning cell within the NRCS's Planning Support Section to forecast incident support functions needed to handle cascading impacts to survivors resulting from the outage. Planning cells serve as a decision support entity to senior policy makers or to the leadership of the NRCC by developing future courses of action or recommendations on strategic emergency management issues. The cell ideally comprise subject matter experts (SMEs) representing key core capabilities and agencies that can advise and develop consensus recommendations on federal response and recovery efforts based on the regional and national impacts from the long-term power outage on health, safety and security. Given the resource demands on many entities during a large-scale incident, if SMEs themselves are not available, staff with the ability to reach back to appropriate SMEs within their organizations may be asked to participate. The cell does not have an operational role

during power outage response/recovery operations and will not be in direct contact with on-the-ground personnel in the incident command. It also does not direct or provide guidance for energy restoration efforts. The cell augments ESF and RSF capabilities by providing an integration and decision-support function for leadership to help synchronize federal response and recovery operations to support sector restoration efforts and lifesaving and life-sustaining actions.

The planning cell's membership will vary depending upon the location, scope, and complexity of the event and may occur virtually. The members may include representatives from the following entities:

- Department of Commerce (DOC)
- DOD
- National Guard
- DOE
- DHS
 - FEMA
 - NPPD
- Department of the Interior (DOI)
- Department of Labor (DOL)
- DOS
- Department of Transportation (DOT)
- HHS
- Environmental Protection Agency (EPA)
- FERC
- General Services Administration (GSA)
- Nuclear Regulatory Commission (NRC)
- USDA.

Based on the specificities of the incident, requests for agency representatives will be based on the expertise required and will be appropriately communicated to the agencies (e.g., full-time or part-time; subject matter areas; desired level of expertise or seniority). National-level electric industry association representatives (e.g., APPA, EEI, ESCC, and NRECA) or representatives from PMAs may be asked to participate in the cell on an ad hoc basis depending on their availability and upon the Secretary of Energy's determination that their assistance is required.

Critical Infrastructure Planning Cell

The NRCC, is the mechanism through which federal response and recovery activities are coordinated. Among the mechanisms are dedicated planning cells that may or may not stand up based on the complexity and scope of the power outage.

The NRCC may choose to stand up a critical infrastructure planning cell. The critical infrastructure planning cell would serve as a decision support entity to senior policy makers or to the leadership of the NRCC by developing future courses of action or recommendations to mitigate the ongoing cascading effects of the incident to other CI sectors. The critical infrastructure planning cell may include representatives from each of the SSAs as well as other subject matter experts.

National Business Emergency Operations Center – Within the NRCC, the National Business Emergency Operations Center (NBEOC) coordinates with national companies and private sector organizations to obtain situational awareness of the impacts of a long-term power outage on these businesses. Consisting of over 500 private sector companies of national scale, the NBEOC serves as the central clearinghouse of situational awareness for the private sector at large and complements the efforts of the National Infrastructure Coordinating Center (NICC) and SSAs. Additionally, the NBEOC coordinates with state BEOCs and other operational private sector coordinating functions at the state or regional levels. The NBEOC conducts scheduled conference calls during a long-term power outage and invites state public utility commissions, appropriate ESFs/RSFs, FEMA Regions, NICC, DOE, and the DHS NPPD Office of Infrastructure Protection (IP) liaison to the NRCC. During these calls, the private sector obtains an understanding of the response and recovery priorities and needs of survivors, as well as provides the government with an understanding of the private sector's impacts, needs, and available capabilities and resources to support business continuity. This ensures that the Federal Government is aware of the cascading impacts on businesses and works collaboratively with the private sector at large.

National Infrastructure Coordinating Center

The DHS NPPD NICC provides situational and operational awareness across the CI sectors and serves as a central point for requests for information and action for the CI sectors. During an incident, the NICC coordinates with Government Coordinating Councils (GCCs), SSAs, ISACs, other federal departments and agencies, and private CI owners and operators to monitor potential and developing threats to and the current operational status of the Nation's CI sectors. It provides this information to the NRCC, JFO, and other operations centers, as required. Table 2 describes the relationships between the coordination elements within each CI sector as well as its relationship to various ESFs and RSFs. Attachment 1 to Appendix 2: Critical Infrastructure Sector Partners includes a detailed list of GCC and Sector Coordinating Councils (SCC) members for each CI sector.

CI Sector Coordination

Coordination across the CI sectors and with ESFs and RSFs provides a mechanism to:

- Understand cascading impacts of a long-term power outage;
- Identify opportunities for federal response and recovery operations to enable restoration of CI; and
- Synchronize operational priorities and targets.

Table 2: CI Sector Coordination Relationships

CI Sector	SSA Coordinating Entity	SCC	GCC			ISAC	ESFs	RSFs
Chemical	DHS NPPD IP	X	Critical Infrastructure Cross Sector Council	X	Federal Senior Leadership Council	Chemical ISAC	None	Infrastructure Systems
Commercial Facilities	DHS NPPD IP	X		X		Real Estate ISAC	#5, #7	Infrastructure Systems
Communications	DHS NPPD Office of Cybersecurity and Communications (DHS NPPD CS&C)	X		X		Communications ISAC	#2	
Critical Manufacturing	DHS NPPD IP	X		X		None	None	
Dams	DHS NPPD IP	X		X		None	#3	
Defense Industrial Base	DOD	X		X		Defense Industrial Base (DIB) Collaborative Information Sharing Environment (DCISE)	None	
Emergency Services	DHS NPPD IP	X		X		Emergency Management and Response ISAC	#3, #4, #5, #13	
Energy	DOE Office of Electricity Delivery and Energy Reliability/ Infrastructure Security and Energy Restoration	X		X		Electricity Sector ISAC, Oil and Natural Gas ISAC, Downstream Natural Gas ISAC, NERC	#3, #12	
Financial Services	Department of the Treasury (TREAS) Office of Critical Infrastructure Protection and Compliance Policy			X		Financial Services ISAC	None	Infrastructure Systems/
Food & Agriculture	USDA Office of Homeland Security and Emergency Coordination; Food and Drug Administration, Center for Food Safety and Applied Nutrition, Office of Analytics and Outreach	X		X	State, Local, Tribal and Territorial Government Coordination Council	None	#8, #11	Infrastructure Systems

CI Sector	SSA Coordinating Entity	SCC	GCC			ISAC	ESFs	RSFs
Government Facilities	GSA Office of Mission Assurance, Security and Special Programs Division/ DHS Federal Protective Service			X		None	#7	Infrastructure Systems
Healthcare & Public Health	DHHS Office of the Assistant Secretary for Preparedness and Response (ASPR)	X		X		National Healthcare ISAC and Healthcare Ready	#6, #8	Infrastructure Systems/ Health & Social Services
Information Technology	DHS NPPD CS&C	X		X		Information Technology ISAC	None	Infrastructure Systems
Nuclear Reactors, Materials, and Waste	DHS NPPD IP	X		X		None	#12	
Transportation Systems	DHS (Transportation Security Administration [TSA] Office of Security Policy and Industry Engagement and United States Coast Guard [USCG] Office of Port & Facility Compliance); DOT Office of Intelligence, Security and Emergency Response	X		X		Surface Transportation ISAC, Public Transportation ISAC, Aviation ISAC, Maritime ISAC, Oil & Natural Gas ISAC	#1	
Water and Wastewater Systems	EPA Water Security Division	X		X		Water ISAC	#3, #8, #10	Infrastructure Systems/ Health & Social Services

- CI Crisis Action Team (CI-CAT)** – During incidents resulting in significant impacts to CI, DHS NPPD IP activates a CI-CAT that provides incident support for situational awareness and planning. The NICC continues to monitor CI at the national level. The CI-CAT responds to incident specific requests and collects, coordinates, and disseminates CI incident information and analysis to DHS, NPPD, and IP leadership, as well as CI partners. The CI-CAT and NBEOC identify requests for information (RFIs), incident priority trends, and coordinate engagement across the 16 sectors to ensure private sector priorities, resource gaps, and needs are included in the incident action plan.

Other National-Level Response and Recovery Coordination

In addition, agencies may also activate their own operations centers such as the National Military Command Center, the Strategic Information and Operations Center, or the HHS Secretary's Operations Center. Depending on the international impact, DOS's Executive Secretariat and its Operations Center may establish a DOS Task Force for a power outage if there are major international implications.

Regional- Level Operational Coordination

Responsibilities of a RRCC are consistent with the NRF, NDRF, and Response and Recovery FIOP. The RRCC coordinates assignments, actions, and other support until a JFO is established and mission-execution responsibilities are transferred to the appropriate team leaders. While the assumption is that a long-term power outage would result in a Stafford Act declaration, in a circumstance where it does not, federal incident management activities will be coordinated out of the applicable RRCC.

NERC Regional Entities

NERC, as the ERO for North America, assures the reliability of the BPS.

NERC delegates its authority to monitor and enforce compliance to eight regional entities whose members come from all segments of the electric industry: investor-owned utilities; federal power agencies; co-ops; state, municipal, and provincial utilities; independent power producers; power marketers; and end-use customers. These entities account for virtually all the electricity supplied in the United States, Canada, and Mexico. The NERC coordinates with federal agency leadership, including DOE, FERC, DHS, and others as appropriate.

Figure 8: NERC Regions

Florida Reliability Coordinating Council (FRCC)
Midwest Reliability Organization (MRO)
Northeast Power Coordinating Council (NPCC)
Reliability First Corporation (RFC)
SERC Reliability Corporation (SERC)
Southwest Power Pool, RE (SPP)
Texas Reliability Entity (TRE)
Western Electricity Coordinating Council (WECC)



Field-Level Operational Coordination

Joint Field Office or Regional Response Coordination Center

The UCG in a JFO/RRCC is flexible and scalable, depending on the specific incident. For a power outage, representatives from affected utilities or the regional utility association may participate as members of the UCG to assist in decision making to prioritize resources.

The JFO/RRCC coordinates with state and local emergency operations centers (EOCs), as well as with industry-specific EOCs that are supporting the response and recovery of a power outage. It incorporates appropriate ESF and RSF structures. As the federal focus shifts towards long-term recovery, a plan between the Federal Coordinating Officer and Federal Disaster Recovery Coordinator will be developed to ensure a seamless transition.

Joint Operations Center

If the cause of the power outage is an actual or suspected terrorist attack, the Attorney General, acting through the Federal Bureau of Investigation (FBI) Director, leads and coordinates the operational law enforcement response, on-scene law enforcement, and related investigative and appropriate intelligence activities related to terrorist threats and incidents. As noted in the Response FIOP, the FBI may establish an FBI Command Post or Joint Operations Center (JOC) for the purpose of managing the investigation, leading and coordinating the law enforcement response to resolve terrorist threats or incidents. If established, the JOC coordinates with the JFO.

State/Local Emergency Operations Centers

As necessary, the state and local EOCs incorporate representatives from impacted utilities and other CI sectors to ensure that the appropriate SMEs are involved in decision making for state support. Working with the state EOCs, representatives from state public utility commissions or other electricity/utility SMEs advise and assist in decision making to prioritize state resources for the restoration process (e.g., public safety officers to assist with access points, fuel, and logistics).

In the case of tribal lands, tribal governments have a special relationship with the United States Government, and local, state, and federal governments may have limited or no authority on tribal lands. The NRF's Tribal Relations Support Annex provides further guidance. Many states involve their tribal counterparts in their EOCs.

- **Protective Security Advisors** – Protective Security Advisors (PSAs) are field-deployed DHS NPPD IP experts who serve as liaisons in state and local EOCs and coordinate the provision of situational awareness and analytical support. During incidents, the PSAs report to the Infrastructure Liaison in the JFO.

Operational Phases

The operational phases for providing coordinated federal support to local, state, tribal, territorial, and insular area governments are identified in the Response and Recovery FIOPs. While individual partners may not use the same phasing for their internal operations, for the purpose of a coordinated federal response, the following phasing applies. Response and recovery operations run concurrently, and the actions will overlap to an extent.

Figure 9 depicts the synergy between the response and recovery operational phases. The actions associated with this annex are focused on Phase 2c (Sustained Response) and Phase 3a (Recovery) in the response phases and Intermediate and Long-Term phases in the recovery phases.

Figure 9: Operational Phases



Federal Government Response Phases—Defined	
Phase 1a	Normal operations
Phase 1b	Elevated threat and the development of situational awareness
Phase 1c	Credible threat of a known hazard; selected teams are alerted and resources may be pre-positioned in anticipation of support needed by the state
Phase 2a	Immediate response at the state/local level (some initial response from federal entities), gaining situational awareness, and activation of operations centers
Phase 2b	Response at the federal level, maintain situational awareness, deployment/employment of resources to incident support bases, federal staging areas, and identified delivery sites, and the movement of resources to incident support bases
Phase 2c	Sustained response, employment of resources at the incident site, saving lives, sheltering survivors and restoring critical systems such as power and communications
Phase 3a	Recovery activities that occur as part of the response mission area to facilitate the transition and support to the recovery mission area
Federal Government Recovery Phases—Defined	
Immediate/Short-Term (Days)	Addresses the health and safety needs beyond rescue, the assessment of the scope of damages and needs, the restoration of basic infrastructure, and the mobilization of recovery organizations and resources, including restarting and/or restoring essential services (e.g., gas, water, electricity) for recovery decision making
Intermediate (Weeks–Months)	Involves returning individuals, families, CI, and essential government or commercial services to a functional, if not pre-disaster, state; such activities are often characterized by temporary actions that provide a bridge to permanent measures
Long-Term (Months–Years)	Addresses complete redevelopment and revitalization of the impacted area; rebuilding or relocating damaged or destroyed social, economic, natural, and built environments; and a move to self-sufficiency, sustainability, and resilience

The concept of operations of this annex focuses on power outages with long-term impacts. While many incidents such as severe weather result in some type of short-term power outage, the actions in this annex assume that initial response and power restoration activities (e.g., activation of operations centers, deployment of response teams) to support immediate life-saving actions have occurred. The actions in this annex focus on only unique activities for a long-term power outage and those activities undertaken by those entities responsible for the energy sector.

Phase 1a – Normal Operations

The Federal Government coordinates with all stakeholders to develop and validate plans to deal with long-term power outages and continues situational awareness monitoring. Refer to the Response FIOP for a list of all-hazards preparedness actions for the Federal Government in this phase.

DOE, as the SSA and lead federal agency for the energy sector, coordinates the following preparedness actions within the energy sector:

- Coordinates with the public/private energy sector, the Electricity and the Oil and Natural Gas SCCs, the ERO, and various associations that represent portions of the energy sector, as well as with SLTT, insular areas, and federal entities.
- Assists the states in preparing state energy assurance plans to improve the reliability and resiliency of the Nation's energy systems, and maintains the EEAC Program, contact list, and database.
- Conducts national security emergency preparedness planning, including capabilities development, administering operational programs for all energy resources, and conducting energy emergency exercises with the energy industry; federal partners; and local, state, tribal, territorial, and insular area governments.
- Develops, tests, trains, and exercises continuity programs and plans coordinating with whole community partners and stakeholders.

DOE coordinates the following activities with SLTT and insular area governments:

- Conducts preparedness activities that support response and recovery to power outages, such as exercises, training, and plan development, consistent with their emergency operations and continuity plans.
- Involves local disability stakeholders in emergency planning to accurately and adequately incorporate considerations of people with disabilities during a long-term power outage.
- Develops inclusive engagement strategies with the public and private utility companies in their state or jurisdiction.¹⁶
- Ensures local and state emergency operations plans include fuel action plans that identify priority users, staging areas, and daily fuel consumption by type of critical facility.

In preparation for power outages, utilities participate in preparedness activities such as—

- Contingency and continuity planning and exercises for restoration.
- Educating state EOC personnel on energy restoration and importance of right-of-way programs.
- Validating contact information for local, state, tribal, territorial, and insular area partners.
- Hardening of infrastructure, inspections, and assessments.
- Ensuring that they have standing contracts with diesel fuel suppliers.
- Developing restoration priorities.
- Developing smart grids and micro grids.
- Developing contracts (e.g., for fuel).
- Improving resiliency.
- Developing mutual assistance agreements.

¹⁶ Jurisdictions with emergency operations plans that are inclusive of people with disabilities and others with access and functional needs are better prepared to meet or quickly identify and mitigate mass care needs of all whole community members.

Phase 1b and 1c – Elevated and Credible Threats

Long-term power outages cannot always be predicted; however, certain threats such as severe weather are a common cause. Certain scenarios such as winter storms or hurricanes often cause power outages. The intelligence community may identify and communicate potential or credible threats to the electric grid. In situations with an elevated or credible threat of disruption to the energy sector, government agencies and utility owners and operators will take certain preventative actions.

The Federal Government—

- Analyzes and models the potential impacts to the electric power, oil, natural gas, and coal infrastructures; analyzes the market impacts to the economy; and determines the effect the disruption has on other CI sectors.
- Through DOE, conducts coordination calls and initiates situational reporting with electric industry representatives, regions, and states.
- Through the NCCIC and E-ISAC, provides threat information and alert products.

Local, state, tribal, territorial, and insular area governments—

- Coordinate with their public utility commissions.
- Identify potential waivers that may be required to expedite disaster response.
- Review local and state plans for energy restoration and prioritization.

Utility owners and operators also take preventative actions depending on the credibility and likelihood of a threat to the electric grid. They—

- Appoint coordinators or leads for various functions (e.g., live wires down, restoration, vegetation management, communications) if not already identified as part of their emergency plans.
- Review and reassess their critical asset list and rank assets for restoration priority.
- Initiate communications with local, state, tribal, territorial, insular area, or federal officials and members of mutual assistance groups.
- Share information with industry and government through ISACs.
- Identify and position resources to respond to an outage, and implement a plan to prioritize response actions (i.e., those that have immediate threat to life or property loss such as downed live wires, and restoration of emergency and hospital services).
- As needed, communicate with their customers on preventative measures and expectations of consequences.
- Commence industry-government coordination through the ESCC and aligned E-ISAC support.
- Alert regional mutual assistance programs.

Phase 2a and 2b – Immediate Response and Deployment

Immediate response includes actions taken within 72 hours of a notice or no-notice incident resulting in a power outage. Actions focus on saving lives; protecting properties and the environment; rapidly meeting basic human needs; preserving the social, economic, and political structure of the jurisdiction; and supporting the transition to recovery.

During this phase, the Federal Government and utilities undertake certain actions such as activating and deploying specialized teams and assets (if not already done in Phase 1), conducting damage assessments, and sharing information on outages.

Specific federal actions are detailed in the ESF and RSF annexes, as well as in the Response and Recovery FIOPs. The following section focuses on power-specific activities of the electric industry.

Local, state, tribal, territorial, and insular area governments—

- Through the public utility commissions or other appropriate state agencies, require the reporting of outages and other events that disrupt power systems.
- Activate the State Energy Operation Center, if one exists.
- Conduct damage assessments.
- If required, develop governor directives authorizing counties to use available in-state fuel supplies to perform initial life safety missions.
- Coordinate with the Federal Government on any waivers that are necessary to expedite lifesaving or life-sustaining missions.
- Coordinate delivery of in-state bulk fuel supplies into impacted areas.
- Review pre-designated state staging areas and fuel PODs.
- Develop prioritized lists of CI for temporary emergency power.

During these sub-phases, public and private electric companies—

- Initiate actions consistent with company emergency plans and the ESCC Playbook and in coordination with the E-ISAC to provide support, information, and advice to the Federal Government and sector stakeholders on incident response.

- Coordinate mutual aid through their regional energy-specific associations and inform federal agencies and other organizations of mutual aid status; if warranted, they activate their national-level frameworks.
- Request assistance from local or state governments, health and human services, including disability, stakeholders who can provide immediate real-time information and situational awareness about people with disabilities and others with access and functional needs who may depend on power for life maintenance and/or to mitigate personal health and safety issues (such as those living independently and or group or some facility settings).
- Maintain open communication channels with customers to inform them of safety measures, impact assessments, and restoration estimates.
- Prioritize plans and actions to restore energy during response and recovery operations.
- Assess, isolate, and restore undamaged areas of the BPS.
- Assess the state of the power grid to determine restoration priorities and strategies.
- Employ “black start” generators to restore generating stations if power is unavailable from the transmission network.
- Synchronize re-energized sections of the BPS.

Restoration Priorities

Typically, utilities adhere to the following repair and restoration sequencing:

- Power Plants
- Startup Power
- Large Transmission Lines/Sub-Stations
- Distribution Substations and Feeder Lines
- Restoration to CI Facilities
- Residential Areas

Many of the actions performed by electric companies will continue through various phases and until restoration is complete.

Phase 2c – Sustained Response

Phase 2c of the power outage covers a period of 2 weeks to 30 days following the incident, when response operations will transition from Initial Operating Facilities to JFOs (if not already established). In addition to the actions identified in the Response FIOP, the Federal Government—

- Coordinates with utilities and CI sectors and identifies cascading impacts from the outage.
- Supports interdependencies with other sectors and identifies actions needed to enable the restoration process in other sectors.
- Communicates critical information to the public, including estimated time of restoration; as provided by industry.
- Identifies and communicates opportunities to mitigate or safeguard against risks.

Local, state, tribal, territorial, and insular area governments—

- Confirm that pre-designated state staging areas and fuel PODs align with state lifeline routes.

- Ensure that pre-designated fuel points align with local priority routes with adequate storage and dispensing capabilities.

Public and private electric companies—

- Assess and isolate damaged areas of the bulk power grid and determine remediation plans.
- Activate their mutual aid networks through their respective electricity associations (if not done so in earlier phases).
- Monitor requests for mutual aid and responses through their respective mutual assistance programs.
- If warranted, activate transmission equipment sharing programs (e.g., STEP, SpareConnect) to help restore the BPS.
- Continue to execute emergency operating procedures such as—
 - Cancelling or recalling prior-scheduled transmission and generation outages.
 - Managing the generating resources to address fuel supply and inventory concerns.
 - Requesting waivers or other regulatory relief from environmental requirements as appropriate.
 - Using curtailable load and demand response.
 - Loading management procedures including rotating blackouts, as needed.

An increasing number of short-term and intermediate recovery and mitigation activities will occur during this sub-phase.

Phase 3 – Recovery

Recovery planning and coordination for all phases of recovery (short-term, intermediate, and long-term) begin with the event and response. Short-term recovery actions occur within the response mission space (Phase 3a) to address health and safety needs beyond rescue, assess the scope of damages and needs, restore basic infrastructure, and fully mobilize recovery organizations and resources. Intermediate and long-term recovery activities can extend much longer when there is a continued need for federal assistance by impacted states.

Each community, state, tribe, or territory defines successful recovery outcomes differently based on its circumstances, challenges, recovery vision, and priorities. In general, the goal of recovery following a long-term power outage includes ensuring the return of individuals and families and to reestablish essential government and/or commercial services to support the physical, emotional, and financial well-being of impacted community members. Recovery activities also include incorporating health and social services and strengthening key systems and resource assets that are critical to the economic stability, vitality, and long-term sustainability of the communities themselves. Actions during this phase are likely to include:

- Support the social services disaster recovery efforts of local, state, tribal, territorial, and insular area jurisdictions.

- Continue identifying and facilitating federal mechanisms to expedite CI restoration (e.g., DPA to prioritize contracts, regulatory relief, restoration logistics support).
- Develop a Recovery Support Strategy that includes an anticipated timeline for engaging with disaster-impacted communities and the levels, types, and durations of federal support to each affected jurisdiction.
- Advise on incorporating mitigation, sustainability, and resilience-building measures into recovery plans and implementation.
- Demobilize any deployed recovery assets.
- Ensure long-term management is in place to sustain any needed federal support to ongoing local, state, tribal, territorial, or insular area recovery efforts.

Critical Information Requirements

Critical information requirements (CIRs) facilitate timely command, control, and coordination of decisions during disaster operations. They provide insight into important details and essential elements of information that response personnel need to effectively make decisions and execute their operations.

CIRs may vary based on the specifics of the power outage. The UCG will define what information is required, and the CIRs are incorporated into the JFO's Information Collection Plan. The following CIRs are supplemental to those outlined in the Response and Recovery FIOPs and are linked to key decisions where appropriate.

Incident Characterization

- Identification of damage zones or outage zones.
- Demographic information of the affected population, including vulnerable positions on utility registries that may need assistance.
- Population density maps with overlay of power outage areas.

Utility and Restoration Information (Coordinated through DOE)

- Power outage statistics organized by state, county or parish.
- Customers impacted/without power.
- Damage assessment and estimates of duration of power outages, and status of restoration.
- State of utility systems, current limitations and capabilities, resource requirements, and recovery strategy.
- Status of all types of fuel, status of generation, substation, line facilities.
- Limiting factors/barriers (e.g., transportation, housing) for utility restoration efforts.

Resource Availability

- Availability of backup power and restoration assets within the impacted area that will affect response and recovery options.

- Fuel status for public consumption.
- Fuel status for public safety and security services.
- Generator/fuel status for critical assets across each of the 16 CI sectors and any additional interagency needs to support essential functions and services.

Sheltering, Feeding, and Distribution of Emergency Supplies

- Status of evacuations and locations of evacuees or shelters.
- Location of actual or potential impacts to CI sectors other than the energy sector.
- Name and status of healthcare facilities (including nursing homes, dialysis facilities) in the impacted area for restoration prioritization.
- Forecasted and cascading impacts to CI, which may affect mobility within the area for an extended period of time (e.g., bridges, roads, major highways, railways, and airports).
- Water treatment plants' operational status.
- Wastewater treatment plants' operational status.

State and Local Plans/Agreements

- State-identified priorities for restoration.

Essential Elements of Information

Essential elements of information support the CIRs by providing more detail for situational awareness and decision-making. Essential elements of information must be verified and include specific details. Examples of potential essential elements include, but are not limited to the following items.

Essential Elements of Information for Government

- Maps/information on CI specific to the incident area.
- Identification of frequency and command structure for operational communications.
- Name of power utilities impacted.
- Updates on restoration progress.
- Critical needs of materials, transportation, and physical access restrictions per sector.
- Status of state and local response and recovery resources.
- Number of potential evacuees, and locations of host communities with concentrations of evacuees, whether in state or out of state.
- Location and status of critical healthcare facilities and services (hospitals, nursing homes, dialysis) and information on at-risk populations with access and functional needs and their medical and social service needs.
- Long-term evacuee/displaced persons' status tracking data (e.g., employment, temporary housing, preferences for permanent relocation versus return, if applicable).

- Location and accessibility of open or planned shelters, fixed and mobile feeding sites, and sites for distribution of emergency supplies (e.g., PODs).
- Limiting factors or obstacles for each sector's restoration of functions (sequencing of activities).
- Requirements for federal assistance (if any) to enable sector continuity or restoration efforts.
- Status of sector mutual assistance, major restoration efforts underway, and estimated times for restoration.
- Private association/nonprofit association requests for assistance.
- Contaminated waste management and potential sites for temporary debris/waste storage.
- Host community agreements to support displaced populations.

Essential Elements of Information for the Electricity Subsector

- Situational awareness:
 - Reports provided through DOE.
 - Information and intelligence on incident characterization.
 - Status on emergency declarations.
 - Command structure.
- Prioritization for restoration and resource allocation:
 - List of critical facilities to use in prioritizing restoration.
 - Priorities for SLTT, insular area, or federal governments.
 - Identification of critical needs to aid in prioritizing restoration efforts (e.g., water, emergency services, hospitals, shelters).
 - Deployment and location status of federal assets.
 - Lists of designated staging sites.
 - Status of generator packs in relation to affected utilities, and estimates on arrival times.
 - Status and availability of airport, seaport, and other transportation infrastructure and access route status.
 - Status of United States border crossing processes with Canada and Mexico, to ensure expedited crossing to support restoration.
- Coordination and communication with government (through DOE):
 - Communication of waivers to utilities, including the status and a central point of contact) for information on waivers.
 - List(s) of applicable key decisions involving utility resources and/or assets.

- Information on security concerns, access-controlled area(s), and credentialing requirements.
- Accessible public information:
 - Federal support and assistance programs to which members of the public can be directed.
 - Support and assistance from FEMA and other federal agencies made available to assist affected subsector employees.

Administration, Resources, and Funding

Administration

Federal agencies are responsible for managing their own financial activities during all operational phases and across all mission areas within their established processes and resources. The Financial Management Support Annex to the NRF provides basic guidance for all federal agencies that provide support for incidents requiring a coordinated federal response.

Resources

Consistent with the Homeland Security Act of 2002 and the Response and Recovery FIOPs, federal departments and agencies are responsible for augmenting personnel to support operations under this annex. Each federal agency possesses individual policies to augment personnel based on its authorities, policies, memoranda of understanding, and mutual aid agreements. Federal agencies must ensure that their employees who are engaged in incident response and recovery activities are able to perform in accordance with operational requirements.

Federal agencies are expected to provide full and prompt cooperation, resources, and support, as appropriate and consistent with their own responsibilities for national security, to the Secretary of Homeland Security in the exercise of their leadership responsibilities and missions for domestic incident management.

Funding

One of the assumptions of this annex is that a large-scale or long-term power outage with significant consequences requiring interagency coordination is likely to be caused from a Stafford Act Incident with associated funding through the Disaster Relief Fund (DRF).

Stafford Act

The Stafford Act authorizes the President to issue a major disaster or emergency declaration upon the request of a governor or chief tribal executive when an incident overwhelms local, state, tribal, territorial, or insular area governments. A Stafford Act declaration enables the Federal Government to provide financial and direct assistance to individuals and families, certain private not-for-profit organizations, and public entities. The funding source for Stafford Act declarations is the DRF. The DRF is not available for non-Stafford Act operations nor activities authorized under another federal agency's independent authority.

The Stafford Act addresses two types of disaster declarations—major disaster declarations and emergency declarations. Both authorize the President to provide supplemental federal assistance to local, state, tribal, territorial, and insular area governments. In addition, certain not-for-profit organizations that own or operate a facility providing essential governmental type services may be eligible for assistance under FEMA’s public assistance program. The type and amount of assistance differs depending on whether the Stafford Act Declaration is a major disaster or an emergency.

- Major Disaster Declaration**—The President can issue a major disaster declaration for any natural catastrophe or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which in the determination of the President causes damage of sufficient severity and magnitude to warrant major disaster assistance under this Act to supplement the efforts and available resources of states, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering that has ensued.¹⁷ A major disaster declaration provides a wide range of federal assistance programs for individuals and public infrastructure, including funds for both emergency and permanent work. Not being a natural catastrophe, a cyber incident or any other outage not inducted by natural events, generally would not qualify for a major disaster declaration, but would likely qualify under the broader definition of an emergency declaration. A fire, flood, or explosion caused by a cyber incident may qualify for a major disaster declaration. A space weather or EMP incident may result in a major disaster declaration if it is determined to be a natural incident.
- Emergency Declaration**—The President can issue an emergency declaration for any occasion or instance when the President determines federal assistance is needed to supplement local, state, tribal, territorial, or insular area government efforts and capabilities to save lives, protect property and public health and safety, or to lessen or avert the threat of a catastrophe in the United States. A power outage may qualify as an emergency under the Stafford Act. Such an incident resulting in a long-term power outage may qualify for an emergency declaration, as may space weather and EMP incidents not resulting in an explosion.

In extremely rare circumstances, a private for-profit entity may be the beneficiary of federal assistance when it is determined that such assistance is necessary to enable that private organization to continue to provide a critical service to the community at large. The service must involve an activity to save lives, protect property or public health and safety, and be beyond the capability of the local, state, tribal, territorial, or insular area government. If authorized, this assistance would be for an exceptionally limited period of time and only for so long as to allow the private sector entity an opportunity to take the necessary steps to meet its own unmet needs. Because of the exceptionally limited circumstances under which private sector assistance would be warranted, matters are reviewed on a fact-specific case-by-case basis and require the prior approval of FEMA senior leadership and the Chief Counsel. The Stafford Act does not authorize assistance to the private sector for economic recovery.

¹⁷ *Robert T. Stafford Disaster Relief and Emergency Assistance Act*, Public Law 93-288, as amended, 42 U.S.C. 5121 et seq.

In absence of a Stafford Act declaration and DRF funding, other funding sources may be available.

Federal-to-Federal Support - Non-Stafford Act

For non-Stafford Act responses, federal departments and agencies with their own response authorities may also have associated appropriations to fund their response, as well as mechanisms to fund supporting federal agencies. Federal agencies with authority to respond but lacking funds may need to request emergency supplemental funding from Congress. Federal-to-federal support is executed through inter/intra-agency reimbursable agreements, in accordance with applicable authorities. Federal departments and agencies providing mutual aid support may request reimbursement from the requesting federal agency for eligible expenditures, consistent with provisions of the Economy Act. Refer to the Financial Management Support Annex to the NRF for more detail.

Other Funding Options

For long-term recovery support, both private and public utilities, as well as other private businesses and CI entities, may be able to apply for certain loans to help restore their functions. The United States Small Business Administration (SBA), through its Office of Disaster Assistance, provides financial assistance in the form of low-interest long-term loans to businesses of all sizes, most private nonprofit organizations, small agricultural cooperatives, and small businesses engaged in aquaculture, following a declared disaster. In addition, SBA provides eligible small businesses with the necessary working capital to help overcome the economic injury of a declared disaster. SBA has the authority to issue two types of disaster loans:

- **Physical Disaster Loans** – Businesses of any size and most private nonprofit organizations may apply to borrow up to \$2 million for a physical disaster loan, which may be used for the repair or replacement of real property, machinery and equipment, fixtures, inventory and leasehold improvements.
- **Economic Injury Disaster Loans** – Small businesses, small agricultural cooperatives, small businesses engaged in aquaculture, or most private, not-for-profit organizations located in a disaster area that suffered substantial economic injury may be eligible for up to \$2 million Economic Injury Disaster Loans (EIDL), regardless of whether the entities suffered physical property damage.¹⁸ Small businesses can apply for a maximum loan (physical and EIDL) of \$2 million.

Other federal recovery programs may be available to states, tribes, territories, and insular areas, but they are dependent on supplemental appropriations. All federal funding options for long-term recovery will be explored during recovery planning for the specific incident.

Oversight, Coordinating Instructions, and Communications

¹⁸ <https://www.sba.gov/loans-grants/see-what-sba-offers/sba-loan-programs/disaster-loans/types-disaster-loans>.

Oversight

FEMA, in close coordination with the DOE, is the executive agent for this annex and is responsible for its management and maintenance. FEMA will update this annex periodically, as required, to incorporate new presidential directives, legislative changes, and procedural changes based on lessons learned from exercises and actual incidents.

Coordinating Instructions

To facilitate the rapid, coordinated, and seamless integration of federal and federally accessible resources into a localized response effort, local, state, tribal, territorial, and insular area governments are encouraged to incorporate the concepts of this annex into their respective plans to support the delivery of federal assistance. Successful incident management operations depend on the involvement of multiple jurisdictions as well as personnel and equipment from federal agencies. Federal agencies should assume that jurisdictional capabilities will be insufficient, or have been exceeded, as soon as they recognize that multiple jurisdictions/regions have lost power.

Logistics Architecture

A long-term power-constrained environment will require significant logistical support from the whole community to support mass care and emergency assistance services, enable the power restoration process, support evacuation if necessary, and promote continuity of critical missions. An interagency supply chain system known as the National Logistics System coordinates federal logistical support consistent with the logistics concept of support in the Response FIOP.¹⁹ Under this system, FEMA and other federal interagency partners operate under their statutory authorities, in coordination with the whole community, to stage personnel and resources in locations favorable to providing timely and efficient access to the impacted area(s). Within the NRCC, federal logistical resource requirements are reviewed and prioritized based on the specifics of the power outage and the approved course of action.

In a long-term power outage, federal temporary emergency power generation assets (e.g., generators and fuel) to maintain mission essential functions and provide lifesaving and life-sustaining support will be in high demand. Federal temporary power generation equipment and technical support may be provided by FEMA, USACE, the Defense Logistics Agency (DLA), or GSA. Prioritization for generators and fuel will be particularly important since the Federal Government has limited organic generator capability. As a result, the logistics architecture will be adapted as necessary (e.g., tailoring unique delivery and dispensing plans of commodities to address the unique circumstances for an incident).

Private Sector Coordination

- DHS NPPD IP, including through the NICC, coordinates with private sector partners directly (for sectors which IP serves as SSA) and with cross sector partners (as the national coordinator of CI protection) to accomplish the following:

¹⁹ For more information on the National Logistics System, refer to *NRF ESF #7 Logistics Support Annex* or the *Federal Emergency Management Agency (FEMA) Logistics Operations Manual* (FEMA publication 9380.1-PR, August 2010).

- Coordinate with NBEOC to vet CI private sector RFIs.
- Support requirements to ensure rapid stabilization and access to impacted private sector CI.
- Collect, share, and disseminate status updates on CI operations, impact, consequences, and analysis and recommendations for restoring CI in coordination with the relevant SSAs.
- DHS NCCIC, through the National Coordinating Center (NCC) joint government and communications industry partnership, serves as the Communications Information and Sharing Analysis Center to—
 - Coordinate with wireline, cellular, wireless, broadcast, satellite, and cable, operators; equipment manufacturers; and communications associations.
 - Provide situational awareness of communications services.
 - Provide communications analytic products of impacts to support planning, response prioritization, and decision-making.
- DOE:
 - Coordinates with electricity owner/operators, suppliers, regulatory entities, and industry associations and conducts regularly scheduled conference calls with impacted utilities and their associations, as incidents require.
 - Coordinates with owners, operators and members of trade associations representing the oil and natural gas sub-sector as necessary and appropriate.
- FERC coordinates with NERC and the E-ISAC regarding cyber and physical alerts to be issued to regulated entities.
- The National Council of ISACs conducts calls with cross-sector stakeholders during a long-term power outage to share information and obtain status updates on emerging issues from various CI sectors.
- The NBEOC, an element within the NRCC, connects private sector stakeholders to resources or information at the local, state, regional, or federal levels for specific issues or capabilities pertaining to a long-term power outage.
- DHS NPPD Liaison:
 - Serves as the primary conduit between FEMA and DHS NPPD to assist the NRCC in future planning and to provide situational awareness as it relates to CI risk analyses.
 - Coordinates with DHS NPPD analysts who develop CI-specific products, identify infrastructure of concern (IOC) lists, and identify available resources to support response and recovery operations. The IOC List is based on incident-specific analyses of the threat to, vulnerabilities of, and potential consequences from the disruption of CI in the impacted area; it is developed by DHS NPPD analysts and updated based on a request from DHS leadership. DHS NPPD IP Liaisons in the field distribute the IOC list to other stakeholders in regional or incident-level

coordinating structures as appropriate. Appendix 2: Critical Infrastructure Sector Interdependencies provides more information on the IOC List.

- Provides the NRCC with access to analytical products such as infrastructure impact assessments. The IOC list and infrastructure assessments are decision support tools that are available to NRCC leadership to inform resource allocation and prioritization.

Nongovernmental Organizations

- Provide critical situational awareness and field data on the survivor needs to the NRCC, DOE, and infrastructure and other teams to support power restoration, evacuation and other planning efforts.
- Through Voluntary Agency Liaisons, share information on requirements and capabilities of voluntary, faith-, and community-based organizations with the Federal Government.
- Assess needs generated by the incident and support the state's coordination of the provision of timely and efficient services.
- Coordinate with state agencies to determine the need for any federal resource requests for needed mass care/emergency assistance items and help facilitate their deployment and arrival.
- Determine federal support for state and local response and recovery efforts, to include referrals for housing, unmet needs, case management, and referral services.

Communications

Immediate action should be taken to identify communication systems for public messaging to provide clear, factual, accessible, linguistically appropriate and timely guidance to the public (see Appendix 3). Communication systems for local, state, and federal agencies should coordinate to maintain situational awareness and permit timely assessments of the status of critical services, resources, and infrastructure. The primary reporting method for interagency information flow is the Homeland Security Information Network (HSIN) and WebEOC™. In the event that WebEOC is inaccessible due to the power outage, backup communications and information sharing protocols will be identified on a case-by-case basis. In addition, to WebEOC, federal recovery partners use the Office of Management and Budget's MAX program for a broad scope of daily information sharing and collaboration, both pre- and post-incident.²⁰

²⁰ <http://max.omb.gov>.

Annex A: Electricity Delivery

Electricity Delivery

Three functions categorize the structure of electricity delivery within the United States—generation, transmission, and distribution—that are linked through key assets, including substations. Overall, the power infrastructure is highly redundant and resilient, but some components of the systems are vulnerable to natural hazards, acts of terrorism, space weather, geomagnetically induced currents, EMP, and sabotage.²¹ As a result, outages can and do occur because of system disruptions.²²

Generation

A diverse fuel mix generates the power supply in the United States, including coal, natural gas, petroleum liquids, nuclear, hydroelectric, and renewables. A power plant can have one or more generators, and some generators have the ability to use more than one type of fuel. Generation capacity varies regionally and depends upon the availability of the fuel resource. For example, coal and natural gas power plants are more common in the Midwest and Southeast, whereas the West Coast depends upon high-capacity hydroelectric power and natural gas-fired power plants. Power generation fuels also have their own supply chain. Vast infrastructure networks of railroads, pipelines, waterways, highways, and processing plants support the delivery of resources to generating facilities, and many such networks rely on electric power.

Transmission

The combined transmission and distribution network is referred to as the “power grid” or simply “the grid.” The power generation and high-voltage transmission lines that deliver power to distribution facilities make up the BPS, which actually comprises four lesser alternating current power grids or “interconnections.” Each interconnection operates independently of one another, with the exception of a few direct current conversion links in between. Figure 10 shows the boundaries of four of these interconnections. The two major subordinate grids, which are also the largest, are the Eastern Interconnection and the Western Interconnection. The Eastern Interconnection reaches from Central Canada eastward to the Atlantic coast (excluding Québec), south to Florida, and west to the foot of the Rockies (excluding most of Texas). The Western Interconnection stretches from Western Canada south to Baja California, Mexico, reaching eastward over the Rockies to the Great Plains. The two minor alternating current power grids are the Texas Interconnection, which covers most of the State of Texas and represents approximately 90 percent of the state’s electrical load, and the Quebec Interconnection, which covers all of the Province of Quebec. The Hawaii and Alaska grid systems (not shown in the figure) are not connected to the grids of the lower 48 states.

²¹ Extreme space weather, especially geomagnetic storms that can cause long-term power outages, are low probability, potentially high-impact incidents. The United States has experienced extreme space weather events during the past 150 years, most notably the Carrington Event of 1859 and the great geomagnetic storm of 1921.

²² *United States Electricity Industry Primer*, Office of Electricity Delivery and Energy Reliability, United States Department of Energy, DOE/OE-0017, August 2016 Revised Edition.

Figure 10: Map of Four North American Power Grid Interconnections²³

The United States' bulk electric system (BES) consists of more than 360,000 miles of transmission lines, including approximately 180,000 miles of high-voltage lines, connecting to about 7,000 power plants.²⁴ Power transmission lines facilitate the bulk transfer of electricity from a generating station to a local distribution network. These networks are designed to transport energy over long distances with minimal power losses, made possible by boosting voltages at specific points along the electricity supply chain.

Transmission lines consist of structural frames, conductor lines, cables, transformers, circuit breakers, switches, and substations.

Substations provide crucial links for generation and serve as key nodes for linking transmission and distribution networks to end-use customers. A substation generally contains transformers, protective equipment (relays and circuit breakers), switches for controlling high-voltage connections, electronic instrumentation to monitor system performance and record data, and firefighting equipment in the event of an emergency. There are over 55,000 substations in North America.

Transformers are critical equipment in delivering electricity to customers, but many are located in isolated areas. The loss of transformers at substations may represent a significant concern for energy security in the electricity supply chain due to the long lead time to design and build transformers, increased global demand in grid-developing countries, and limited domestic manufacturing capabilities. Transformers and their components are unique due to their specificity in design and application. Substations are highly specific to the systems they serve, which also limits the interchangeability of transformers. Replacing, for example, is associated with a long delivery lead-time, as they are generally difficult and costly to transport due to their considerable size and weight. Failure of even a single unit could result in temporary service interruption. The production of an LPT ranges from approximately 12–24 months and involves

²³ North American Reliability Corporation.

²⁴ *United States Electricity Industry Primer*.

contract procurement, design, manufacturing, testing, delivery, and installation as illustrated in Figure 11.

Figure 11: 2011 Large Power Transformer Procurement Process and Estimated Optimal Lead Time²⁵



As a resiliency measure, some utilities keep backup transformers, or “spare transformers,” for use during emergencies. Since high-voltage transformers can cost millions of dollars, utilities may opt to purchase a spare transformer or build redundancy into the system (e.g., being able to reroute power should a transformer fail) as part of their overall risk mitigation strategy.

Distribution

The power distribution system is the final stage in the delivery of electric power, carrying electricity out of the transmission system to individual customers. Distribution networks distribute electric power and consist of following main parts:

- Distribution substations
- Primary distribution feeders
- Distribution transformers
- Distributors
- Service mains

²⁵ *United States Electricity Industry Primer.*

Appendix 1: Core Capability Decisions, Requirements, and Tasks

Core Capability Considerations, Requirements, and Actions

Incidents such as a long-term power outage require a broader set of atypical partners to accomplish the capability targets for the Response and Recovery Core Capabilities identified in the National Preparedness Goal.

The following table discusses scenario-specific critical considerations, resource requirements, and actions for Core Capabilities beyond their all-hazards actions described in the Response and Recovery FIOPs.

Table 3: Core Capability Considerations, Requirements, and Actions

Core Capability	POIA-Specific Critical Considerations	POIA-Specific Resource Requirements	POIA-Specific Critical Actions (ESF with Primary Responsibility)
Cross-cutting Core Capabilities			
Operational Coordination	<ul style="list-style-type: none"> • There will likely be multiple JFOs • There will be a need to integrate with the private sector 	<ul style="list-style-type: none"> • Representatives to participate in any future planning activities 	<ul style="list-style-type: none"> • Determine the need for a future planning cell (ESF #5) • Coordinate with the NBOC (ESF #5) • Invite utility association representatives to participate in NRCC activities (ESF #5)
Planning	<ul style="list-style-type: none"> • FEMA Regional POIAs are being developed in certain regions 	<ul style="list-style-type: none"> • Awareness of resource allocation and prioritization decisions • Awareness of energy restoration and prioritization spanning a large geographical area 	<ul style="list-style-type: none"> • Develop a national support plan based on the concept of operations in the applicable Regional POIA (ESF #5) • Determine the need for a future planning cell (ESF #5) • Monitor private sector coordination in collaboration with DHS NPPD IP (ESF #5)
Public Information and Warning	<ul style="list-style-type: none"> • Traditional means of providing information to the public will not be available without power (e.g., social media, TV, radios, text alerts, computer messages) • All disaster notifications and information must be made available to all people, including those with access and functional needs, simultaneously; therefore, preparedness planning with disability SMEs provides guidance on formats, platforms, and methods so that 	<ul style="list-style-type: none"> • Assessment of timeline for power and communications restoration • Awareness of ESF field activities that could be leveraged for message distribution • Awareness of resource allocation and prioritization decisions • Access to other federal agencies' communication methods, including technology and grassroots channels 	<ul style="list-style-type: none"> • Identify alternative means for communicating information to the public (ESF #2, ESF #15) • Determine and address critical communication needs of vulnerable populations (ESF #6, ESF #8, ESF #15) • Assess agency MOUs to identify added capabilities, private sector capabilities, and FEMA National Radio System (ESF #2, ESF #15)

Core Capability	POIA-Specific Critical Considerations	POIA-Specific Resource Requirements	POIA-Specific Critical Actions (ESF with Primary Responsibility)
	messaging is accessible to everyone		
Infrastructure Systems	<ul style="list-style-type: none"> Multiple CI systems will be impacted by a power outage requiring significant coordination with the CI sectors All levels of government will determine prioritization of sector specific CI restoration There will be a need to determine what the priorities are for funding energy restoration and eligibility requirements for the public/private sector to receive funding 	<ul style="list-style-type: none"> CI damage/impact assessments from SSAs, ISACs, or DHS NPPD Crews (e.g., transmission specialists) and necessary mechanical parts to restore CI Generators and the expertise to assess, install, and maintain them Teams and expertise to assess temporary emergency power requirements and install, operate, and maintain generators at critical facilities 	<ul style="list-style-type: none"> Activate USACE power generation teams (ESF #3) Assess and prioritize healthcare facilities' reliance on power for sustaining ongoing operations (ESF #8) Assess the energy impact of the incident, provide analysis of the extent and duration of energy shortfalls, and identify requirements to repair energy systems (ESF #12) Coordinate with intergovernmental and private sector partners to identify requirements for temporary emergency power (ESF #3) Coordinate with critical SSAs to ensure consistency of information provided through the Secretary of Energy, the National Security Council, SCCs, and/or committees or other high-level coordinating structures as directed (ESF #12) Establish a process for public and private sector utilities to gain access to the incident site(s) (ESF #2, ESF #12). May liaise with states and locals on law enforcement support to establish and maintain a safe environment for infrastructure restoration(ESF #13) Coordinate between government and the communications industry to assess communications needs required to coordinate restoration of power (ESF #2)
Response Core Capabilities			
Critical Transportation	<ul style="list-style-type: none"> Prioritization of key resources and transportation requests such as fuel and interstate travel restriction waivers Ensuring continuity of flow of resources through airports, ports, highways and the rail system Accessibility of transportation routes, rest 	<ul style="list-style-type: none"> Access to fuel supply and fuel distribution points Necessary waivers and permits to move resources in to the affected area quickly and efficiently Transportation assets to help restore CI 	<ul style="list-style-type: none"> Employ the DPA, as required, to support restoration priorities, generator productions, and deployment. (ESF #5, ESF #7) Identify priority route access requirements for restoration workers (ESF #1) Facilitate the implementation of regulatory relief mechanisms across the critical transportation sector (ESF #1)

Core Capability	POIA-Specific Critical Considerations	POIA-Specific Resource Requirements	POIA-Specific Critical Actions (ESF with Primary Responsibility)
	areas, etc. for people with disabilities		<ul style="list-style-type: none"> Coordinate requests for fuel waivers (ESF #12)
			<ul style="list-style-type: none"> Facilitate coordination with groups for interstate travel and mutual aid (ESF #1) Ensure reporting of transportation infrastructure degradation (ESF #1)
Environmental Response/ Health and Safety	<ul style="list-style-type: none"> Public messaging must include safety issues pertaining to power outage 	<ul style="list-style-type: none"> Status of emerging or anticipated environmental impacts 	<ul style="list-style-type: none"> Address and promulgate information about power outage safety issues, including food safety (from lack of food refrigeration) and carbon monoxide poisoning (from extended use of power generators) (ESF #5, ESF #8, ESF #11)
Fatality Management Services	<ul style="list-style-type: none"> Morgue or mortuary services rely on air conditioning and removal to maintain optimum condition of the deceased 	<ul style="list-style-type: none"> Fuel to support the movement of bodies Power to support morgue services (i.e., refrigeration) 	<ul style="list-style-type: none"> Identify alternate fuel services to support mortuary services (ESF #8, ESF #7)
Fire Management and Suppression	<ul style="list-style-type: none"> Ensure prioritization for restoration of emergency services infrastructure, including fire stations, 9-1-1 and dispatch centers, critical communication sites, and refueling facilities for fire apparatus, water systems components critical for fire suppression Maintain critical access routes to affected utility locations Deactivate appropriate systems at affected locations to allow appropriate application of fire suppression techniques 	<ul style="list-style-type: none"> Situational awareness on affected utility locations to prioritize response efforts Status on whether appropriate systems are deactivated at the affected locations Fuel for responders to reach impact area 	<ul style="list-style-type: none"> DOE and utility coordination for prioritizing and initiating fire suppression efforts (ESF #4, ESF #12) Ensure communications infrastructure reporting of 9-1-1, dispatch, and first responder communications impacts (ESF #2)

Logistics and Supply Chain Management	<ul style="list-style-type: none">• Issues may exist with identification, credentialing, and indemnification requirements to ensure personnel can deliver services and resources in/near the impacted area• There is limited federal organic generator capability which will result in prioritization decisions• Demand for fuels may be greater than the national inventory	<ul style="list-style-type: none">• Distribution system to support manufactured housing unit requirements• Identification, credentialing, and identification requirements to ensure services and resources are delivered to the impacted area• Identification of available fuel sources and ability to deliver	<ul style="list-style-type: none">• Employ DPA (as required) to support restoration priorities: generator production and deployment, fuel, transportation of critical resources (ESF #5, ESF #7)• Identify requirements for temporary emergency power and prioritize, allocate and adjudicate limited non-energy resources that will be provided to assist impacted states (ESF #12, ESF #3, ESF #7)• Coordinate with DOE to identify additional available
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Core Capability	POIA-Specific Critical Considerations	POIA-Specific Resource Requirements	POIA-Specific Critical Actions (ESF with Primary Responsibility)
	<ul style="list-style-type: none"> Distribution of generators may or may not follow prioritization order for a short-term power outage (i.e., life-saving facilities, life-sustaining facilities, and other municipal facilities) 	<ul style="list-style-type: none"> across state lines (e.g., need for waivers) Minimum/maximum requirements for diesel fuel to support CI per location type and generator size Estimated daily fuel requirements for critical transportation Fuel burn rates from each impacted state's emergency operations plan 	<ul style="list-style-type: none"> fuel resources, including Secretary of Energy decisions associated with the drawdown of the Strategic Petroleum Reserve (SPR), Northeast Home Heating Oil Reserve, and Northeast Gasoline Supply Reserve) (ESF #12, ESF #7)
Mass Care and Emergency Assistance Services	<ul style="list-style-type: none"> Decision on whether to evacuate populations will inform appropriate mass care and emergency services actions Backup power resources should be considered a high priority to support congregate care and non-congregate care facilities Waivers may be needed for expeditious movement of people and allocation of scarce medical resources across state lines A framework for allocation should be considered due to a scarcity of human and material support resources. Backup power and fuel should be prioritized for fixed and mobile feeding sites and sites for distribution of emergency supplies 	<ul style="list-style-type: none"> The ability to provide food, water and shelter with a reliable power source and access to food and potable water supply (potentially) outside the affected area Fuel for shelters and feeding stations Fuel for volunteers to reach the impacted public and assess their needs 	<ul style="list-style-type: none"> Identify additional fuel and transportation requirements and other resources needed to support the distribution of food, water, and emergency supplies for survivors (ESF #7) Coordinate with DOE and logistics to determine the most effective use of and locations for accessible mass care resources (facilities, equipment, and supplies) based on restoration priorities (ESF #6) Assess the viability of applying a zone approach to prioritize limited resources in areas with short-term power outages, for evacuations and in communities hosting survivors from areas where there are long-term outages (ESF #12, ESF #6) Coordinate with ESF #8 and Healthcare Coalitions, where appropriate for enhanced support to manage higher levels of needs in mass care facilities due to factors such as depopulation of medical facilities and influx of survivors who rely upon electricity-dependent medical and assistive equipment and technology (ESF #6) Identify options and implement programs for providing housing assistance for survivors whose homes have no long-term power but are not damaged or inaccessible (ESF #6)
Mass Search and Rescue	<ul style="list-style-type: none"> None identified 	<ul style="list-style-type: none"> None identified 	<ul style="list-style-type: none"> Implement actions consistent with emPOWER and local

Core Capability	POIA-Specific Critical Considerations	POIA-Specific Resource Requirements	POIA-Specific Critical Actions (ESF with Primary Responsibility)
			databases to identify and
			support life checks for the elderly, people with disabilities, and others on life-sustaining medical equipment (ESF #9)
On-Scene Security and Protection	<ul style="list-style-type: none"> Access points may require enforcement mechanisms to ensure authorized personnel and resources can proceed through Intra-state coordination may be required to ensure neighboring states avoid restricting entry by closing access points, thus restricting the flow of resources, response/recovery personnel and evacuees Jails and detention centers may require relocation Civil disturbance (rioting, looting, etc.) may require additional law enforcement resources. 	<ul style="list-style-type: none"> Fuel for security vehicles Backup communications systems to maintain operational coordination Resources to transport prisoners to new locations Law enforcement resources to respond to civil disturbances. 	<ul style="list-style-type: none"> Liaise with local, state, tribal, territorial, and insular area authorities to ensure a safe environment for infrastructure restoration (ESF #13) Identify fuel needs for equipment and transportation to support operations (ESF #7) Coordinate with local, state, tribal, territorial, and federal government agencies responsible for jails, detention centers and prisons to ensure that any necessary prisoner relocation efforts are conducted (ESF #13) Coordinate with local, state, tribal, territorial, and insular area authorities to ensure sufficient law enforcement resources are available to respond to civil disturbances.
Operational Communications	<ul style="list-style-type: none"> Consideration of key communications resources to support continuity of government at all levels, effective command and control of response and recovery capabilities, and public messaging in a degraded communications environment 	<ul style="list-style-type: none"> Fuel for government fixed and mobile communications capabilities Coordination of fuel, access, and security for private sector capabilities critical to lifesaving and life-sustaining operations and to public alerts and warnings 	<ul style="list-style-type: none"> Provide timely legal counsel to federal decision-makers for use of federal communications resources in support of private sector entities (ESF #2) Facilitate transition from government-provided temporary restoration to commercial long-term restoration (ESF #2)
Public Health, Healthcare, and Emergency Medical Services	<ul style="list-style-type: none"> Hospitals depend on daily shipments of goods and fuel Hospitals depend on the availability of potable water and sanitary wastewater treatment Diversion plans for hospitals will not work; other nearby hospitals will also be impacted Hospitals and healthcare facilities may require patient evacuation to centers with electricity; this could be hours away depending on the breadth of the outage 	<ul style="list-style-type: none"> Alternate fuel sources or contingency plans to account for limited generator supply A patient movement cell to coordinate the evacuation of patients 	<ul style="list-style-type: none"> Coordinate patient movement, if required (ESF #8) Coordinate on alternate fuel sources (ESF #7, ESF #8) Implement strategies to assess and monitor the public health, disease surveillance, and injury prevention (ESF #8)

Core Capability	POIA-Specific Critical Considerations	POIA-Specific Resource Requirements	POIA-Specific Critical Actions (ESF with Primary Responsibility)
	<ul style="list-style-type: none"> Response times for emergency medical services will increase Individuals who have power-dependent durable medical equipment or implantable devices who live in the impacted 		
	<p>community require assistance with power restoration or evacuation</p> <ul style="list-style-type: none"> Accessibility of medications for people with behavioral or other mental health needs should be planned for, including provisions for access to compound pharmacies and/or pharmaceuticals 		
Situational Assessment	<ul style="list-style-type: none"> It may be difficult to obtain situational awareness until power is restored and communications are up and running 	<ul style="list-style-type: none"> Status of restoration efforts to include number of customers without power; percentage restored, restoration estimates 	<ul style="list-style-type: none"> Coordinate with DOE, which will provide the status of restoration and energy sector impacts (ESF #5) Coordinate with DHS/NCC, which will provide status of restoration and communications sector impacts (ESF #2)
Economic Recovery	<ul style="list-style-type: none"> Consideration to prioritize key resources to access bank assets (e.g., cash, monetary notes) and/or transportation and security assets to move currency into or near the impacted area Appropriate authorities and financial resources are identified and communicated to state/local officials 	<ul style="list-style-type: none"> Clear instructions/guidance from the Federal Government regarding financial resources available Situational awareness on affected populations to determine potential economic impacts and assistance needed 	<ul style="list-style-type: none"> Develop a multi-dimensional strategy capable of supporting economic recovery and enhancing whole community resiliency in absence of power

Core Capability	POIA-Specific Critical Considerations	POIA-Specific Resource Requirements	POIA-Specific Critical Actions (ESF with Primary Responsibility)
Health and Social Services	<ul style="list-style-type: none"> • Consideration to prioritize services for relocated households, to include access to transportation, schools, postal services, fire/police, grocery stores, and educational services for relocated students • Consideration to prioritize health care infrastructure in a timely manner • Due to lack of access, it may be difficult getting inspectors in to the affected areas • Health care providers may not be able to get to their places of work 	<ul style="list-style-type: none"> • Critical dependence on water purification and wastewater treatment • Greater amounts of specifically trained personnel • Tracking clients and/or affected populations needing assistance 	<ul style="list-style-type: none"> • None identified
Housing	<ul style="list-style-type: none"> • Identify and provide timely, appropriate and accessible temporary housing assistance that can support the volume of disaster survivors and their needs following a long-term outage • Housing demand for responders (both public and private) may exceed capacity of impacted area • Consider funding mechanisms are in place for housing costs for the "host" states in receiving evacuees • Large multi-family properties may be habitable if elevators and emergency lighting were operational; this might reduce the impact to mass care and emergency assistance facilities, particularly for housing for the elderly 	<ul style="list-style-type: none"> • Visibility of available accessible housing options • Difficulty obtaining alternate housing in the affected areas if power is not available 	<ul style="list-style-type: none"> • Implement the Housing Annex

Core Capability	POIA-Specific Critical Considerations	POIA-Specific Resource Requirements	POIA-Specific Critical Actions (ESF with Primary Responsibility)
Recovery Core Capabilities			
Housing	<ul style="list-style-type: none"> Identify and provide timely, appropriate and accessible temporary housing assistance that can support the volume of disaster survivors and their needs following a long-term outage Housing demand for responders (both public and private) may exceed capacity of impacted area Consider funding mechanisms are in place for housing costs for the "host" states in receiving evacuees Large multi-family properties may be habitable if elevators and emergency lighting were operational; this might reduce the impact to mass care and emergency assistance facilities, particularly for housing for the elderly 	<ul style="list-style-type: none"> Visibility of available accessible housing options Difficulty obtaining alternate housing in the affected areas if power is not available 	<ul style="list-style-type: none"> Implement the Housing Annex

Executive Decisions

Throughout a long-term power outage, key strategic and operational decisions will be required. This may include decisions about prioritizing resources and implementing waivers, among other issues.

The following table identifies some of the key decisions, identified by Core Capabilities, that either the senior-level policy coordination committee or the NRCC may require. This does not include all of the decisions identified by core capability or CI sector that may be made at an agency level.

Table 4: Executive Decisions

Decision	Essential Elements of Information	Core Capability with Primary Responsibility
Application of the Power Outage Incident Annex: Upon notification from DOE that the power outage is likely to continue for an extended period of time, the FEMA Administrator, in collaboration with the Secretary of DOE, may decide to implement the constructs in this annex.	<ul style="list-style-type: none"> The battle-rhythm of the policy coordination committee and when it requires decision support A need to coordinate response and recovery actions beyond traditional coordination mechanisms What functions/issues require policy decisions that need to be elevated 	Planning

Decision	Essential Elements of Information	Core Capability with Primary Responsibility
Stafford Act Support to Private Sector Entities: Under the Stafford Act, the Federal	<ul style="list-style-type: none"> Which funding mechanisms have been exhausted 	
Government does not provide support to investor-owned for-profit utilities. In rare instances and on a case-by-case basis, the Federal Government may provide certain support for an exceptionally limited period to for-profit utilities for lifesaving or life-sustaining missions. The Federal Government may consider regulatory relief for private institutions and should synchronize its operations to enable, support, and otherwise not contradict private sector restoration operations.	<ul style="list-style-type: none"> A governor's request for support for life-saving or life-sustaining missions Clarification of the duration and level of support required, needed to receive FEMA General Counsel and Administrator approval 	Planning
Core Capability Prioritization: Resources to support restoration efforts are likely to be quite limited. Decisions will need to be made in order to prioritize federal operations to support the most optimal restoration of the 16 CI sectors based upon interdependencies and cascading impacts.	<ul style="list-style-type: none"> Analyses of interdependencies and risk assessments Infrastructure of Concern List Status of restoration provided by DOE Status of private sector businesses provided by the NBEOC, SSAs, ISACs, ESFs and DHS NPPD IP 	Planning
Resource Prioritization: Resources to support all of the people impacted by the power outage will be limited. Therefore, decisions will need to occur concerning how to employ those resources in areas to achieve the most positive impact for the largest number of people. The course of action in Concept of Operations will be reviewed and refined by leadership to prioritize resources based on the specifics of the incident.	<ul style="list-style-type: none"> Areas in which power will be restored within two weeks Understanding of the core capabilities required to restore power in those areas (e.g., debris removal, port openings, public security, and other public assistance) Areas with the projected shortest duration of power outage Whether states have decided to encourage or enforce evacuations Areas with the densest populations and survivors that cannot self-evacuate Similar resource requirements across jurisdictions 	Planning
Suspension of highway regulations to allow rapid delivery of restoration capabilities: To expedite the delivery of critical resources, either for restoration or to support survivors, certain regulations governing emergency transportation may need to be waived by applicable federal authorities. Other regulations governing emergency transportation may need to be waived by applicable state and local authorities.	<ul style="list-style-type: none"> Whether delays exist in transporting critical resources in a timely manner Whether responders are encountering challenges in the existing framework for transportation permitting The quantifiable benefits of waiving highway regulations (e.g., can increase response time by X hours) Impacts to other sectors or ongoing activities 	Critical Transportation

POWER OUTAGE INCIDENT ANNEX

<p>Evacuation: Local, state, and federal officials will evaluate whether or not an evacuation is necessary depending on the scope of the incident, status of the grid and CI sector restoration efforts and immediate health and safety concerns. Local, state, tribal, territorial, or insular area governments may require federal support for coordination of evacuations (e.g., general population; patient). Immediate support for emergency</p>	<ul style="list-style-type: none"> • Areas in which power will be restored within two weeks • Which, if any, states have decided to encourage or enforce evacuations • Trigger points for evacuation for each state • Areas with the densest populations and survivors who need assistance evacuating • What states are available to accept evacuees • Available transportation resources 	<p>Critical Transportation</p> <p>Mass Care Services</p> <p>Public Health, Healthcare, and Emergency Medical Services</p>
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Decision	Essential Elements of Information	Core Capability with Primary Responsibility
backup power or restoration prioritization may depend on evacuation decisions.	<ul style="list-style-type: none">• Which states have implemented contraflow traffic operations to facilitate evacuation• Availability and locations to implement refueling of evacuation vehicles• Number of patients requiring evacuation and medical transport assets	

Appendix 2: Critical Infrastructure Sector Interdependencies

The NIPP denotes 16 CI sectors, and the reliance of virtually all industries on electric power and fuels means that all sectors have some dependence on the energy sector. It is critical to understand the impacts of a long-term power outage on the other 15 sectors to wisely influence national policy and prioritize critical resource allocation.

Energy sector interdependencies are highly complex and exist at different levels, so a “system of systems” approach is required to address linkages within and among the following:

- Facilities and assets
- Networks (physical, cyber)
- End-to-end systems
- Communities, regions, and states
- States and multi-state groups
- Connections across national borders or global

These linkages may be physical, cyber, or virtual and can cause cascading and escalating failures (or in the case of co-located infrastructure assets, can result in common cause failures).

Disruptions within a single infrastructure can generate disturbances within other infrastructures and over long distances, and the array of interconnections can extend or amplify the effects of that disruption, resulting in impacts to the whole community.

Lifeline Functions

The NIPP identifies certain lifeline functions that are essential to the operation of most CI sectors. The term “lifeline functions” generally refers to a sector that provides indispensable services that enable the continuous operation of critical business and government functions, and that would risk human health and safety or national and economic security if compromised or not promptly restored. These lifeline functions include communications, energy, transportation, and water. These sectors provide the most essential services that underlie a regional economy. Figure 12 describes basic interdependencies between the lifeline functions.

Figure 12: Lifeline Functions^{26/ 27}

(Sub)sector Generating the Service	(Sub)sector Receiving the Service				
	ONG 	Electricity 	Transportation 	Water 	Communication 
ONG 		Fuel to operate power plant motors and generators	Fuel to operate transport vehicles	Fuel to operate pumps and treatment	Fuel to maintain temperatures for equipment; fuel for backup power
Electricity 	Electricity for extraction and transport (pumps, generators)		Power for overhead transit lines	Electric power to operate pumps and treatment	Energy to run cell towers and other transmission equipment
Transportation 	Delivery of supplies and workers	Delivery of supplies and workers		Delivery of supplies and workers	Delivery of supplies and workers
Water 	Production water	Cooling and production water	Water for vehicular operation; cleaning		Water for equipment and cleaning
Communication 	Breakage and leak detection and remote control of operations	Detection and maintenance of operations and electric transmission	Identification and location of disabled vehicles, rails and roads; the provision of user service information	Detection and control of water supply and quality	

CI Sector Impacts

Table 5 is a snapshot of the impacts to the other 15 CI Sectors that a long-term loss of power has on its mission, the critical information requirements, and potential decisions and coordination points. The information in this table will assist in identifying initial impacts to the other CI sectors that may result in additional actions during the response. This data will be validated as part of the crisis action planning for the particular long-term power outage.

²⁶ Graphic is from the 2015 *Energy Sector Specific Plan*.

²⁷ Interdependency between nuclear and electricity on base power for nuclear generation.

Table 5: Sector Impacts, Critical Information Requirements, and Decision Points in a Power Outage

Sector/SSA	Sector Overview	Impacts on Sector During a Power Outage	Critical Information Requirements	Potential Decision Points and ESF/RSF Coordination Points
Lifeline Sectors				
Communications SSA: <ul style="list-style-type: none"> DHS CS&C NCCIC 	<ul style="list-style-type: none"> Communication networks (wireline, wireless, cable, satellite, broadcast) Communications facilities Cyber infrastructure 	<ul style="list-style-type: none"> System operators may not be able to maintain telephone, cellular, email or dedicated broadband networks for communications Ability to monitor, generate, and control the delivery of electricity may be affected 	<ul style="list-style-type: none"> Backup communications systems in the impacted area Ability to route communications through other areas/regions Communications priorities/needs for Mass Care and Emergency Assistance, evacuations and re-entry Fuel distribution plans 	<ul style="list-style-type: none"> Federal communications resource priorities to support continuity of government, federal command and control, and public alerts and warning (ESF #2) Highway regulation suspensions to allow rapid delivery of commercial communication restoration capabilities (ESF #1) Fuel distribution priorities (ESF #12) Security for critical facilities (ES F#13) Access to sites and impact areas (ESF #13) Surface transportation regulatory relief to allow rapid delivery of commercial communication restoration capabilities (ESF #1)) Power industry restoration plans and priorities (ESF #12)
Transportation Systems SSAs: <ul style="list-style-type: none"> DHS (TSA office of Security Policy and Industry Engagement and USCG Office of Port and Facility Compliance) DOT (Office of the Secretary S-60 Office of Intelligence, Security and Emergency Response) 	<ul style="list-style-type: none"> Aviation Highway and motor carrier Maritime transportation system Mass transit and passenger rail Pipeline systems Freight rail Postal and shipping 	<ul style="list-style-type: none"> Limited or no power for overhead transit lines Limited or no power for railroads switching and signals Limited or no ability to move/pump fuel at gas stations Limited generator capacity of public transit/ SCADA, traffic signal control, tracking and routing (supply chain functioning) 	<ul style="list-style-type: none"> Transportation infrastructure status Community support needs and transport requirements Available transportation resources Determined staging areas for relief operations 	<ul style="list-style-type: none"> Need for evacuation transport, if required (ESF #1, ESF #5) Fuel delivery priorities (ESF #7)

Sector/SSA	Sector Overview	Impacts on Sector During a Power Outage	Critical Information Requirements	Potential Decision Points and ESF/RSF Coordination Points
		<ul style="list-style-type: none"> • Loss of ticketing and check-in at airports and ticketing vending machines for public transit • Loss of badge detectors for secure identification display areas or other controlled access areas • Loss of closed caption television, low-light television, motion detectors, and other electronic surveillance tools • Loss of communications such as security alert functions and public address systems • Loss of lighting in tunnels and underground stations • Loss of fire/life/safety systems and alarms 		
Water and Wastewater SSA: <ul style="list-style-type: none"> • EPA Water Security Division 	<ul style="list-style-type: none"> • 153,000 public drinking water systems • More than 16,000 publicly owned wastewater treatment systems 	<ul style="list-style-type: none"> • Drinking water utilities may have limited backup power and may have to reduce operations, with potential impacts on water pressure and quality; some drinking water utilities may cease operations • Wastewater utilities may have limited backup power and may have to reduce operations, leading to discharges of partially treated or untreated sewage; some wastewater utilities may cease operations 	<ul style="list-style-type: none"> • Drinking water and wastewater utilities' supply of emergency generators, fuel, and treatment chemicals 	<ul style="list-style-type: none"> • Prioritizing generators, fuel, and chemicals to sustain drinking water and wastewater services at impacted utilities (ESF #3, ESF #10)
Other CI Sectors				
Chemical SSA:	<ul style="list-style-type: none"> • Basic chemicals • Specialty chemicals 	<ul style="list-style-type: none"> • Directly affect all chemical facilities 	<ul style="list-style-type: none"> • Status of chemical facilities in impacted region 	<ul style="list-style-type: none"> • Decisions on the chemical sector's resource sharing

Sector/SSA	Sector Overview	Impacts on Sector During a Power Outage	Critical Information Requirements	Potential Decision Points and ESF/RSF Coordination Points
<ul style="list-style-type: none"> DHS NPPD IP 	<ul style="list-style-type: none"> Agricultural chemicals Pharmaceuticals Consumer products 	<ul style="list-style-type: none"> located in the impacted region Limited or no ability to extract coal or perforate gas and oil wells 	<ul style="list-style-type: none"> Cascading effects on other chemical facilities that are dependent on goods or materials provided by the affected facilities 	<ul style="list-style-type: none"> methodology (ESF #5; Infrastructure Systems RSF)
<p>Commercial Facilities</p> <p>SSA:</p> <ul style="list-style-type: none"> DHSNPPD IP 	<ul style="list-style-type: none"> Entertainment and media Gaming Lodging Outdoor events Public assembly Real estate Retail Sports leagues 	<ul style="list-style-type: none"> Impact to facilities in a region Ability to house responders if hotels are not available Ability to provide goods and services 	<ul style="list-style-type: none"> Status of commercial facilities in impacted region Which facilities have backup generators and how long they will last 	<ul style="list-style-type: none"> Trigger point for reallocation of national critical resources (ESF #5) Prioritizing energy restoration to commercial facilities (ESF #5, ESF #12) Coordinating status of backup communications, and public alerts and warning (ESF #2)
<p>Critical Manufacturing</p> <p>SSA:</p> <ul style="list-style-type: none"> DHS NPPD IP 	<ul style="list-style-type: none"> Primary metals manufacturing Machinery manufacturing Electrical equipment, appliance, and component manufacturing Transportation equipment manufacturing 	<ul style="list-style-type: none"> Ability to manufacture power generators and other equipment for energy restoration 	<ul style="list-style-type: none"> Which manufacturers have backup generators What manufacturing facilities have been impacted in the incident area 	<ul style="list-style-type: none"> Local, state, and/or federal governments require assets to be manufactured/ provided to assist in the energy restoration process (ESF #7)
<p>Dams</p> <p>SSA:</p> <ul style="list-style-type: none"> DHS NPPD IP 	<ul style="list-style-type: none"> Water storage and irrigation Sediment and flood control Electricity generation "Black start" capabilities Peaking power 	<ul style="list-style-type: none"> Disruptions to hydroelectric operations could create serious supply deficits and hinder the movement of key commodities if navigation locks do not work Impacted locks are crucial to shipping coal or fuel and no alternative transportation modes are available to transport needed commodities 	<ul style="list-style-type: none"> Status of dams/locks in impacted region Which facilities have backup generators and how long they will provide power Which facilities have "black start" capabilities Whether impacted locks affect the shipment of coal or fuel needed to produce electricity or fuel generators 	<ul style="list-style-type: none"> Facilities need to initiate "black start" capabilities (ESF #3, ESF #12)
<p>Defense Industrial Base (DIB)</p> <p>SSA:</p>	<ul style="list-style-type: none"> Weapon system platforms Military components Military expendables 	<ul style="list-style-type: none"> Ability to produce goods and services required for weapon systems 	<ul style="list-style-type: none"> Expected restoration timelines for affected DIB facilities 	<ul style="list-style-type: none"> Whether DOD will change expectations of DIB deliverables given a long-term disruption (ESF #5, ESF #7)

Sector/SSA	Sector Overview	Impacts on Sector During a Power Outage	Critical Information Requirements	Potential Decision Points and ESF/RSF Coordination Points
<ul style="list-style-type: none"> DOD Office of the Secretary of Defense, Policy 				
<p>Emergency Services</p> <p>SSA:</p> <ul style="list-style-type: none"> DHS NPPD IP 	<ul style="list-style-type: none"> Law enforcement Fire and rescue services Emergency management Emergency medical services Public works 	<ul style="list-style-type: none"> Ability to maintain critical emergency services sector operations during disasters Ability to fuel its service vehicle fleet Maintain redundant emergency communications 	<ul style="list-style-type: none"> Emergency managers controlling access to damaged/impacted areas will require personally identifiable information and/or equipment information from utility workers to give them access to begin restoration activities 	<ul style="list-style-type: none"> Knowledge of restoration timing estimates to maintain response capabilities (ESF #12) Emergency communications and infrastructure restoration to maintain response capabilities (ESF #2)
<p>Financial Services</p> <p>SSA:</p> <ul style="list-style-type: none"> TREAS Office of Critical Infrastructure Protection and Compliance Policy 	<ul style="list-style-type: none"> Deposit, consumer credit, and payment systems products Credit and liquidity products Investment products Risk transfer products 	<ul style="list-style-type: none"> All major exchanges can be serviced by backup power however, the duration of all backup power generation is limited by availability of fuel and other factors; Moreover, this is inconsequential if all trading institutions are similarly affected, as most institutions would not conduct business Inability of major exchanges and financial functions to rely on robust communication networks Offline ATM networks would result in a critical cash shortage, with individuals unable to access checking and savings accounts through normal means As card transactions become more prevalent for everyday purchases, the impact of an outage impacting point of sale payments systems would be significant 	<ul style="list-style-type: none"> Status of major equities exchanges and fixed income markets Access to financial institutions' contingency plans to understand how they would mitigate the effects in an impacted region 	<ul style="list-style-type: none"> Access to support backup capabilities (such as fuel for generators) (ESF #3, ESF #7) Rationing available resources across other critical sectors communities (ESF #5, Economic Recovery RSF)

Sector/SSA	Sector Overview	Impacts on Sector During a Power Outage	Critical Information Requirements	Potential Decision Points and ESF/RSF Coordination Points
Food and Agriculture SSAs: <ul style="list-style-type: none"> • USDA Office of Homeland Security and Emergency Coordination • Food and Drug Administration, Center for Food Safety and Applied Nutrition, Office of Analytics and Outreach 	<ul style="list-style-type: none"> • Food supply • Processing, packaging, and production • Agricultural and food product processing, storage, transportation and distribution • Agricultural and food supporting facilities • Regulatory, oversight, and industry organizations • Other agriculture and food 	<ul style="list-style-type: none"> • Ability to provide and store food • Ability to ensure safety of food products • Health and well-being of livestock and crops 	<ul style="list-style-type: none"> • Which facilities have been impacted and resultant disruptions or loss of capacity • Amount of time until operations can resume following restoration of power • Amount of time until operations can resume following restoration of interdependent sector(s) services (e.g., water, transportation, communication) • Cascading effects in the supply and distribution chain 	<ul style="list-style-type: none"> • Authorize the Disaster Supplemental Nutrition Assistance Program (ESF #11)
Government Facilities SSAs: <ul style="list-style-type: none"> • DHS (Federal Protective Service) • General Services Administration Office of Mission Assurance Security and Special Programs 	<ul style="list-style-type: none"> • Buildings owned by governments • National monuments and icons • Educational facilities (kindergarten through college) • Public facilities • Offices and office building complexes • Housing for government employees • Correctional facilities • Embassies, consulates, and border facilities • Courthouses • Maintenance and repair shops • Libraries and archives • Non-public facilities • Research and development facilities • Military installations • Records centers • Space exploration facilities 	<ul style="list-style-type: none"> • Ability to operate government facilities • Ability to operate educational facilities, labs, and research facilities • Security of federal facilities • Disruption of critical information technology (IT) systems 	<ul style="list-style-type: none"> • Cascading effects on government facilities that support national and primary mission essential functions • Status of backup communications systems in the impacted area • Status and duration of backup generators in government CI facilities • Expected restoration timelines for affected facilities • Identification of threat actors, intrusion methods, and network vulnerabilities for a manmade incident 	<ul style="list-style-type: none"> • Prioritizing federal resources to support continuity of government and continuity of operations, federal command and control, and public alerts and warning (ESF #5) • Prioritizing the interruption and restoration of government services such as issuance of entitlement benefits • Coordinating on status of backup communications, and public alerts and warning (ESF #2)

Sector/SSA	Sector Overview	Impacts on Sector During a Power Outage	Critical Information Requirements	Potential Decision Points and ESF/RSF Coordination Points
	<ul style="list-style-type: none"> Storage facilities for weapons and ammunition, precious metals, currency, and special nuclear materials and waste Warehouses to store property and equipment 			
Healthcare and Public Health SSA: <ul style="list-style-type: none"> HHS ASPR 	<ul style="list-style-type: none"> Direct patient care Healthcare information technology Health plans and payers Mass fatality management services Medical materials Laboratories, blood, and pharmaceuticals 	<ul style="list-style-type: none"> Acute care hospitals with emergency service provision have generator power for only a few days 	Hospitals in Affected Area: <ul style="list-style-type: none"> Patient counts and bed availability Generator and fuel status to keep facilities running Which departments are offline or hampered Status of blood supply Status of medications and medical supply Staff availability and/or relocation Status of health clinics in affected areas Which hospitals are open for what services Emergency communications and infrastructure restoration to maintain response capabilities (ESF #2) Access and Functional Needs Accommodations: <ul style="list-style-type: none"> Whether at-risk populations with medical, behavioral health and social service needs are fulfilled Whether jails and prisons are capable of providing necessary medical care Status of Emergency Medical Services in the area, 	<ul style="list-style-type: none"> Whether to initiate mass patient movement plans (ESF #8) Coordinating fuel and generator support for healthcare facilities (ESF #7)

Sector/SSA	Sector Overview	Impacts on Sector During a Power Outage	Critical Information Requirements	Potential Decision Points and ESF/RSF Coordination Points
			including response and transport times of patients <ul style="list-style-type: none"> Fuel status Response and transport times of patients Availability of mental health resources Drug and alcohol dependent related arrests and disturbances Morgue availability 	
Information Technology SSA: <ul style="list-style-type: none"> DHS CS&C 	<ul style="list-style-type: none"> IT products and services Incident management capabilities Domain name resolution services Identity management and associated trust support services Internet-based content, information, and communications services Internet routing, access, and connection services 	<ul style="list-style-type: none"> Major power outage through sophisticated cyber-attack could result in possible breakdown of a single interoperable internet, and resulting failure of governance policy 	<ul style="list-style-type: none"> Identifying threat actors, intrusion methods, and network vulnerabilities are critical to mitigation and long-term defensive strategies 	<ul style="list-style-type: none"> Changes to cybersecurity resiliency protocols (ESF #2)
Nuclear Reactors, Materials, and Waste SSA: <ul style="list-style-type: none"> DHS NPPD IP 	<ul style="list-style-type: none"> Commercial nuclear power plants Non-power reactors used for research, training, and radioisotope production Fuel-cycle facilities Nuclear and radioactive materials used in medical, industrial, and academic settings 	<ul style="list-style-type: none"> Directly affect offsite power to all nuclear plants located in the impacted region 	<ul style="list-style-type: none"> Status of nuclear power plants in the impacted area Status of the grid, to ascertain if nuclear power plants can continue to generate power or go into a controlled shutdown 	<ul style="list-style-type: none"> NRC regulations trigger controlled shutdown using onsite power (ESF #5, ESF #12)

DHS NPPD Infrastructure of Concern List

DHS NPPD produces an IOC List during incidents that serves as a decision support tool to inform resource allocation and prioritization decisions. The IOC List prioritizes the physical infrastructure facilities that are most likely to be impacted by a power outage or its cascading effects. Disruption of IOC could result in loss of life or degrade the essential government, public health, safety, or economic functions of the impacted area, region, or the Nation.

Incident-specific analyses of the threat to, vulnerabilities of, and potential consequences from the disruption of CI in the impacted area are the basis of the IOC List. Infrastructure assets on the IOC List are selected based on their criticality, the potential impacts the infrastructure may have on the restoration and recovery activities in the area, and the consequence of disruption. Each asset on the IOC is assigned a priority level based on the overall impacts to its operations based on the power outage.

- **Priority 1** (High Consequence of Loss) – Includes infrastructure which may have regional or national impacts or is critical for immediate response operations.
- **Priority 2** (Moderate to High Consequence of Loss) – Includes infrastructure where the consequence of loss may cascade beyond just the local/regional area. This infrastructure may support incident response operations.
- **Priority 3** (Low to Moderate Consequence of Loss) – Includes infrastructure with a low to moderate consequence, but which is provided for situational awareness for response activities.

Infrastructure analysts update the IOC List as required to reflect evolving changes based on restoration and response activities.

CI Sector Coordination and Information Management

Certain information is required to help facilitate decision support and operations for a long-term power outage. Information may be required from federal partners, states, electric companies, or other partners. General categories of CIR are noted the Critical Information Requirements section; however, supplemental information will likely be required depending on the specifics of the incident. This information will be used to inform the key executive decisions.

The categories for the RFI process may include but are not limited to—

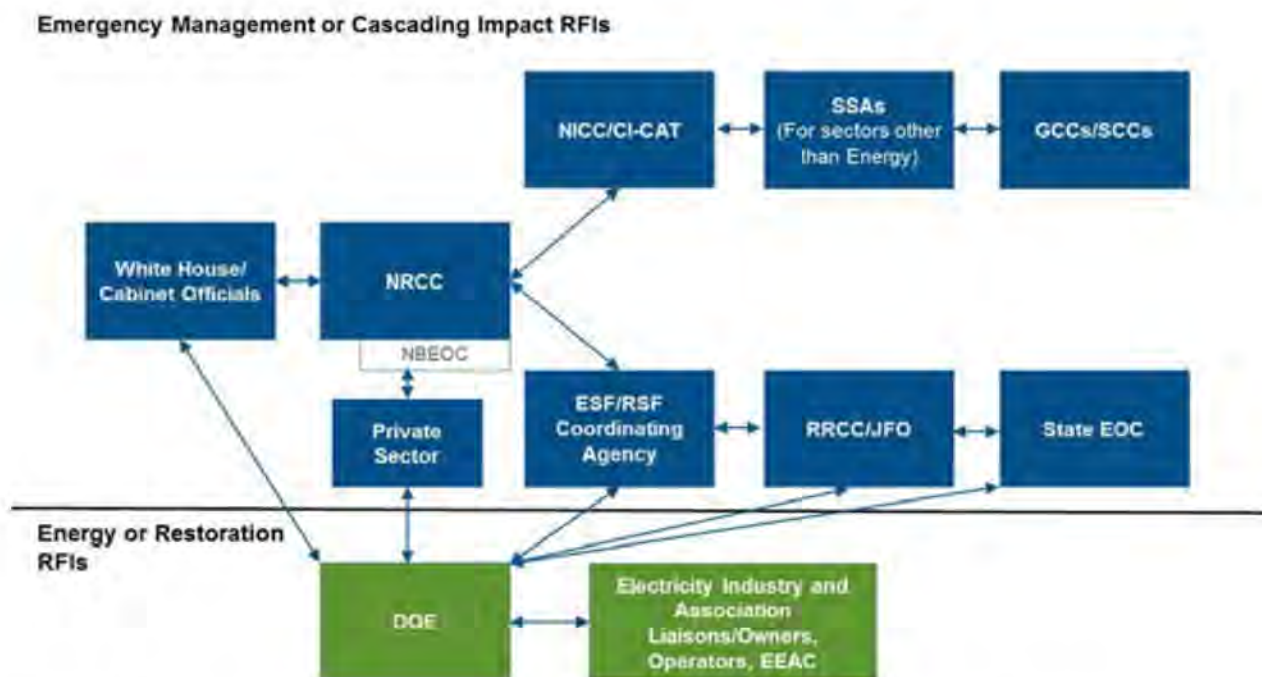
- Incident impacts on CI sector (cascading effects);
- Sector priorities and federal support requirements (e.g. route clearance, public safety/security, regulatory relief);
- National security issues;
- Requirements to synchronize sector and federal response/recovery concept of operations (e.g. responder housing, deployment phasing); and

- Restoration operations status.

The NRCC, as the national center through which federal response and recovery activities are coordinated, supports the incident response informational needs of the CI sectors and initiates RFIs based on needs of senior decision makers at the White House or cabinet members with authority for aspects of the response.

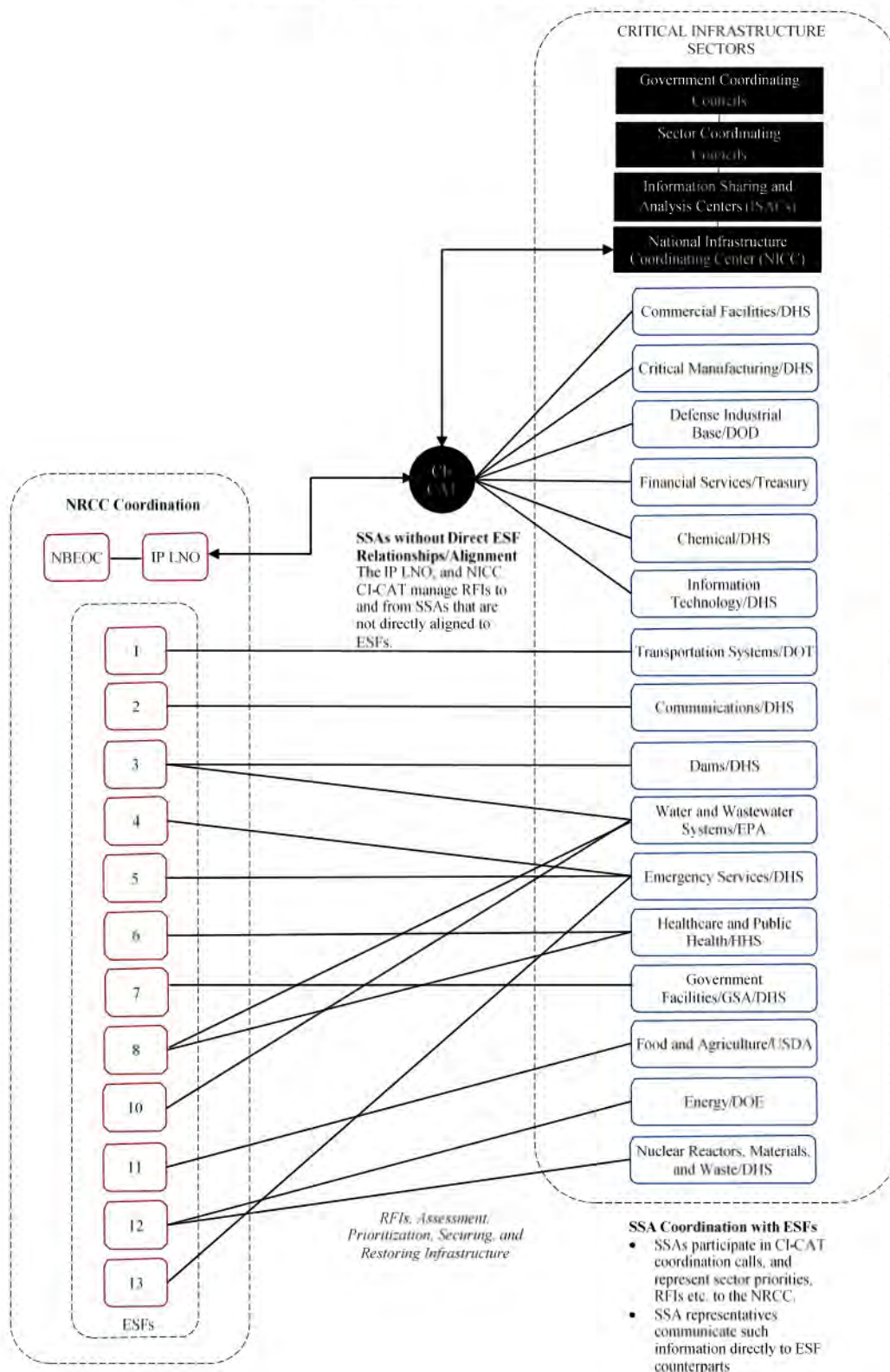
For information specific to an ongoing request for federal assistance, the NRCC distributes the RFI to the appropriate ESF or RSF. This will involve the appropriate ESF Coordinator within the NRCC coordinating with ESF representatives in the various JFO/RRCCs. The NRCC will also coordinate with the NICC for sector-specific information other than energy. Figure 13 illustrates a high-level overview of the process flow for RFIs.

Figure 13: RFI Basic Process Flow for Power Outages



Many of the ESFs have a direct relationship with certain SSAs. Coordination between ESFs/RSFs and SSAs of the CI sectors ensures that the information provided is accurate. RFIs are generated and received by both ESFs and SSAs, and the flow of information shown in Figure 13 is bi-directional.

In cases where RFIs originate with industry partners, those are usually managed first by the SSA, which coordinates with its ESF counterpart. NBEOC and sector coordination calls that are conducted during incident response activities coordinate and align RFI requirements and status among the private sector. For RFIs pertaining to the impacts and status of CI sectors that are not directly aligned to an ESF, the NRCC coordinates with the NICC to obtain information from the appropriate SSA. The SSAs coordinate with their sector-specific partners to obtain the information. Figure 14 provides a relationship diagram between the ESFs and SSAs.

Figure 14: CI Sector and ESF Relationship

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Attachment 1 to Appendix 2: Critical Infrastructure Sector Partners

The community involved in managing risks and restoration of CI is composed of partnerships among owners and operators; local, state, tribal, territorial, insular area, and federal governments; regional entities; not-for-profit organizations; and academia. Sector and cross-sector partnership council structures are the key mechanisms for managing CI security and resiliency.

GCCs consist of representatives across various levels of government, as appropriate to the operating landscape of each individual sector. The councils enable interagency, intergovernmental, and cross-jurisdictional coordination within and across sectors, and they partner with SCCs on public-private efforts.

SCCs are self-organized and self-governed councils whose members are CI owners and operators and their representatives. SCCs serve as principal collaboration points between the government and private sector CI owners and operators for sector-specific planning and collaboration.²⁸

Table 6 identifies the various government and private sector partners who are key to the resiliency of the 16 CI Sectors.

Table 6: CI Sector Partnerships²⁹

Sector	GCC Membership	SCC Membership
Chemical	<ul style="list-style-type: none"> • DOC • DHS • U.S. Department of Justice (DOJ) • DOT • EPA 	<ul style="list-style-type: none"> • Agricultural Retailers Association • American Chemistry Council • American Coatings Association • American Fuel and Petrochemical Manufacturers • American Petroleum Institute • BASF Corporation • Chlorine Institute, The • Compressed Gas Association • Council of Producers & Distributors of Agrotechnology • CropLife America • Dow Chemical Company • Fertilizer Institute, The • Institute of Makers of Explosives • International Institute of Ammonia Refrigeration • International Liquid Terminals Association • Louisiana Chemical Association • LSB Chemical LLC • National Association of Chemical Distributor • Praxair, Inc. • Society of Chemical Manufacturers & Affiliates
Commercial Facilities	<ul style="list-style-type: none"> • DHS • DOJ 	<ul style="list-style-type: none"> • American Hotel and Lodging Association • Analytic Risk Solutions, LLC

²⁸ NIPP 2013, pg 12.

²⁹ Information was obtained from the DHS Critical Infrastructure Partnership Advisory Council Charters and Membership webpage (<https://www.dhs.gov/cipac-charters-and-membership>), dated December 29, 2016. Refer to the website for the most up-to-date membership rosters.

Sector	GCC Membership	SCC Membership
	<ul style="list-style-type: none"> • GSA • HHS • USDA 	<ul style="list-style-type: none"> • Beacon Capital Partners • Boyd Gaming Corporation • Contemporary Services Corporation • Fort Hall Casino • International Association of Amusement Parks & Attractions • Mall of America • Marriott International • National Football League • National Retail Federation • Peppermill Resort Spa Casino • Real Estate Information Sharing and Analysis Center (ISAC) • Retail Industry Leaders Association • Sea World • Simon Property Group • Stadium Managers Association • Target • Tishman Speyer Properties • U.S. Tennis Association • Viacom
Communications	<ul style="list-style-type: none"> • DHS • DOC • DOD • DOE • DOI • DOJ • Federal Communications Commission (FCC) • Federal Reserve Board (FRB) • GSA • National Association of State Chief Information Officers • National Institute of Standards and Technology (NIST) • NRC • United States Postal Service (USPS) 	<ul style="list-style-type: none"> • 3U Technologies • Alcatel-Lucent • Alliance for Telecommunications Industry Solutions • AT&T • Century Link • Cincinnati Bell • Cisco Systems, Inc. • Clearwire • Computer Sciences Corporation • Computing Technology Industry Association • Consolidated Communications • Cox Communication • Fairpoint Communications, Inc. • Frontier • Harris Corporation • Hubbard Radio • Hughes Network Systems • Independent Telephone and Telecommunications Alliance • Internet Security Alliance • Intrado • Iridium • Juniper Networks • Level 3 Communications • Motorola • National Association of Broadcasters • National Cable & Telecommunications Association • National Telephone Cooperative Associations • NeuStar • Research in Motion • Satellite Industry Association • Sprint • Telcordia • Telecommunications Industry Association • Telephone and Data Systems, Inc.

Sector	GCC Membership	SCC Membership
		<ul style="list-style-type: none"> • Time Warner Cable • U.S. Internet Services Provider Association • U.S. Telecom Association • Verizon • Windstream
<p>Critical Manufacturing</p>	<ul style="list-style-type: none"> • DHS • DOC • DOD • DOE • DOI • DOJ • DOS • DOT • SBA 	<ul style="list-style-type: none"> • Aerojet, a GenCorp Inc. • Alexion Pharmaceuticals, Inc. • ArcelorMittal USA • Armstrong Marine Inc. • Boeing Company, The • Bridgestone Americas, Inc. • Briggs & Stratton • Carpenter Technology Corporation • Caterpillar, Inc. • Chrysler Group, LLC • Cisco Systems, Inc. • Cliffs Natural Resources, Inc. • Crane Aerospace & Electronics • Deere & Company • Delbia Do Company • Delphi Corporation • Ellanef Manufacturing • Emerson Electric, Co. • Fairchild SemiConductor • FarSounder, Inc. • Ford Motor Company • General Electric Company • General Motors Company • Goodyear Tire & Rubber Company • GrayGlass • Hercules Heat Treating Corporation • Intel Corporation • ITT Corporation • Johnson Controls, Inc. • Kohler Company • Lee Spring, Co. • Michelin North America • Mi-Jack Systems & Technologies • Mini Circuits • Navistar International Corporation • Nichols Brothers Boat Builders • Novelis, Inc. • Oregon Iron Works • Oshkosh Corporation • PACCAR, Inc. • Pelco by Schneider Electric • Penske Corporation • Raytheon Company • Remy International, Inc. • Rock Ventures, LLC • Rosco Vision Systems • S&L Aerospace Metals, LLC • Schweitzer Engineering Laboratories, Inc.

Sector	GCC Membership	SCC Membership
		<ul style="list-style-type: none"> • Smith & Wesson Holding Company • Steeler, Inc. • Summit Appliances, Inc. • TE Connectivity, Ltd. • ThyssenKrupp Stainless USA, LLC • United States Steel Corporation • United Technologies Corporation • Whirlpool Corporation • Zero International
Dams	<ul style="list-style-type: none"> • DHS • DOD • DOI • DOJ • DOL • DOS • FERC • Lower Colorado River Authority • State of Arkansas • State of California • State of Florida • State of New Hampshire • State of New Jersey • State of North Carolina • State of Pennsylvania • TVA • USDA 	<ul style="list-style-type: none"> • Ameren Services Company • American Electric Power • Association of State Dam Safety Officials • Association of State Flood Plain Managers • Avista Utilities • Brookfield Renewable Energy • CMS Energy • Colorado River Energy Distribution Association • Dominion Resources • Duke Energy Corporation • Dynegy, Inc. • Exelon • Grant County Public Utility District, Washington • National Association of Flood & Stormwater Management Agencies • National Hydropower Association • National Water Resources Association • New York Power Authority • Northwestern Energy • Ontario Power Generation • Pacific Gas & Electric Company • Salt River Project Agricultural Improvement and Power District • SCANA Corporation • Seattle City Light • Southern California Edison • Southern Company • State of South Carolina, Public Service Authority • U.S. Society of Dams • Xcel Energy Corporation
Defense Industrial Base	<ul style="list-style-type: none"> • DOC • DOD • DOE • DHS • DOJ • DOS • TREAS 	<ul style="list-style-type: none"> • Aerojet Rocketdyne • Aerospace Industries Association • Alliant Techsystems • American Society of Industrial Security (ASIS) International • American System • BAE Systems • Ball Aerospace & Technologies Corporation • Boeing Company, The • Booz Allen Hamilton • Computer Sciences Corporation • DRS Technologies, Inc. • Espy Corporation, The • General Atomics Aeronautical Systems Inc. • General Dynamics

Sector	GCC Membership	SCC Membership
		<ul style="list-style-type: none"> • General Electric Company • Honeywell International • HP White Laboratory, Inc. • Huntington Ingalls Industries • InCadence Strategic Solutions • L-3 Communications • Leidos • Lockheed Martin Corporation • MetiSpace Technology • National Classification Management Society • National Defense Industrial Association • Northrop Grumman Corporation • Orbital Science Corporation • Oshkosh Defense Corporation • Pratt & Whitney • Raytheon Company • Rockwell Collins • Rolls-Royce North America • Science Applications International Corporation • TASC, Inc.
Emergency Services	<ul style="list-style-type: none"> • DHS • DOD • DOI • DOJ • DOT • HHS • Interagency Board • USDA 	<ul style="list-style-type: none"> • American Ambulance Association • American Public Works Association • Central Station Alarm Association • Electronic Security Association • Emergency Preparedness Resource Group • International Association of Chiefs of Police (IACP) • International Association of Emergency Managers • International Association of Fire Chiefs • International Public Safety Association • National Association of Security Companies • National Association of State Emergency Medical Services Officials • National Emergency Management Association • National Fire Protection Association • National Fusion Center Association • National Native American Law Enforcement Association • National Sheriffs' Association (NSA) • Securitas Security Services • Security Industry Association
Energy	<ul style="list-style-type: none"> • BPA • DHS • DOD • DOE • DOI • DOJ • DOS • DOT • EPA • FERC • HHS • National Association of Regulatory Utility Commissioners (NARUC) 	Electricity Subsector: <ul style="list-style-type: none"> • American Electric Power • APPA • Arkansas Electric Cooperative • Avangrid • Canadian Electricity Association • Center for Strategic and International Studies • City Utilities of Springfield • Consolidated Edison • Dominion • Duke Energy • EEI • Edison International • Electric Power Supply Association

Sector	GCC Membership	SCC Membership
	<ul style="list-style-type: none"> • National Association of State Energy Officials • Natural Resources Canada • Public Safety Canada • SEPA • SWPA • TREAS • TVA • USDA • WAPA 	<ul style="list-style-type: none"> • ENMAX Corporation • Exelon Corporation • Georgia System Operations Corporation • Great River Energy • Hawaiian Electric Industries, Inc. • Lincoln Electric System • MidAmerican Energy Co. • NERC • Norwich Public Utilities • NRECA • Nuclear Energy Institute • Old Dominion Electric Cooperative • PG&E Corporation • PJM • PPL Corporation • Santee Cooper • Southern Company • Xcel Energy <p>Oil and Natural Gas Subsector:</p> <ul style="list-style-type: none"> • American Exploration & Production Council • American Fuel & Petrochemical Manufacturers • American Gas Association • American Petroleum Institute • American Public Gas Association • Association of Oil Pipe Lines • Canadian Association of Petroleum Producers • Canadian Energy Pipeline Association • Energy Security Council • Gas Processors Association • Independent Petroleum Association of America • International Association of Drilling Contractors • International Liquid Terminals Association • Interstate Natural Gas Association of America • National Association of Convenience Stores • National Ocean Industries Association • National Propane Gas Association • Offshore Marine Service Association • Offshore Operators Committee • Society of Independent Gas Marketers Association • Texas Oil & Gas Association • U.S. Oil & Gas Association
Financial Services	<ul style="list-style-type: none"> • American Council of State Savings Supervisors • Board of Governors of the Federal Reserve System • Conference of State Bank Supervisors • Consumer Financial Protection Bureau • DHS • DOD 	<ul style="list-style-type: none"> • Aetna • AIG • American Bankers Association • American Council of Life Insurers • American Express • American Insurance Association • American Society for Industrial Security International • Bank Administration Institute • Bank of America • Bank of New York Mellon Corporation, The • BATS Exchange

Sector	GCC Membership	SCC Membership
	<ul style="list-style-type: none"> • Farm Credit Administration • Federal Deposit Insurance Corporation • Federal Housing Finance Agency • FRB • FRB of Chicago • FRB of New York • National Association of Insurance Commissioners • National Association of State Credit Union Supervisors • National Credit Union Administration • North American Securities Administration Association • Securities Investor Protection Corporation • TREAS • United States Commodity Futures Trading Commission • United States Securities and Exchange Commission (SEC) 	<ul style="list-style-type: none"> • BB&T • BCG Partners • BITS • Capital One • Charles Schwab Bank • ChicagoFIRST • Citigroup • Clearing House, The • CLS Group • Comerica • CME Group • Consumer Bankers Association • Convergenx • Credit Union National Association • Depository Trust & Clearing Corporation, The • Equifax • Fannie Mae • Fidelity Investments • Financial Information Forum • Financial Services ISAC • First Data • FIS • Freddie Mac • Futures Industry Association • GE Capital Retail Bank • Goldman Sachs • Independent Community Bankers of America • Institute of International Bankers • Intercontinental Exchange, NYSE • International Securities Exchange • Investment Company Institute • John Hancock/Manulife • JP Morgan Chase • LCH Clearnet • Managed Funds Association • MasterCard • Money Market Institute • Morgan Stanley • NACHA - The Electronic Payments Association • NASDAQ Stock Market, Inc • National Armored Car Association • National Association of Federal Credit Unions • National Futures Association • National Stock Exchange • Navient • Navy Federal Credit Union • Northern Trust • Omgeo • Options Clearing Corporation • PNC • Property Casualty Insurers Association of America • RBS • Securities Industry Financial Markets Association

Sector	GCC Membership	SCC Membership
		<ul style="list-style-type: none"> • State Farm • State Street Corporation • Sun Trust • Synchrony Financial • U.S. Bank • Visa U-S-A Inc. • Wells Fargo
Food and Agriculture	<ul style="list-style-type: none"> • Alaska Government • American Association of Veterinary Laboratory Diagnosticians • Association of Food and Drug Officials • Association of State and Territorial Health Officials • Clemson University, South Carolina Department of Plant Industry • Commonwealth of Virginia, Department of Agriculture • DHS • DOC • DOD • DOE • DOI • DOJ • DOS • EPA • HHS • Iowa Department of Inspection and Appeals • Multistate Partnership for Security in Agriculture • National Assembly of State Animal Health Officials • National Association of County and City Health Officials (NACCHO) • National Association of State Departments of Agriculture • National Center for Foreign Animal and Zoonotic Disease Defense • National Environmental Health Association • Navajo Nation, The • Sandia National Laboratories • Southern Agriculture & Animal Disaster Response Alliance 	<ul style="list-style-type: none"> • Ahold USA, Inc. • American Bakers Association • American Feed Industry Association • American Frozen Food Institute • American Meat Institute • American Veterinary Medical Association • Archer Daniels Midland Corporation • Association of Food Industries • Cargill • Coca-Cola Company, The • ConAgra Foods, Inc. • Consumer Specialty Products Association • CropLife America • Dairy Institute of California • Dean Foods Company • Deloitte & Touche LLP • Food Marketing Institute • General Mills • Giant Food, LLC • Grocery Manufacturers Association • Ingredion, Inc. • International Bottled Water Association • International Dairy Foods Association • International Food Service Distributors Association • Juice Products Association • Kellogg Company • Kraft Foods Global, Inc. • Kroger Company, The • Land O' Lakes, Inc. • Marriott International • McCormick & Company, Inc. • National Association of Manufacturers • National Cattlemen's Beef Association • National Chicken Council • National Corn Growers Association • National Fisheries Institute • National Grain and Feed Association • National Grocers Association • National Milk Producers Federation • National Oilseed Processors Association • National Pork Board • National Pork Producers Association • National Renderers Association • National Restaurant Association • North American Millers' Association • PepsiCo, Inc.

Sector	GCC Membership	SCC Membership
	<ul style="list-style-type: none"> • State of California, Department of Food and Agriculture • State of Florida, Department of Agriculture and Consumer Services • State of Kansas, Department of Agriculture • State of Michigan, Department of Agriculture • State of Minnesota, Department of Agriculture • State of New Mexico, Department of Agriculture • State of Oklahoma, Department of Public Health • State of Texas, Animal Health Commission • State of Texas, Department of Agriculture • State of West Virginia, Department of Agriculture • University of Kentucky, College of Agriculture, Cooperative Extension Service • University of Minnesota, Food Protection and Defense Institute • USDA 	<ul style="list-style-type: none"> • Publix Super Markets, Inc. • SES, Inc. • Starbucks Coffee Company • Sugar Association, The • Super Store Industries • Texas Cattle Feeder's Association • United Fresh Produce Association • USA Rice Federation
Government Facilities	<ul style="list-style-type: none"> • Administrative Office of the United States Courts • Architect of the Capitol • City of Fort Worth, Texas • Department of Veterans Affairs • DHS • DOD • DOE • DOI • DOJ • DOL • DOS • DOT • EPA • FCC • Federal Trade Commission • FRB • GAO • GSA • HHS • U.S. Department of Housing and Urban Development 	<ul style="list-style-type: none"> • N/A

Sector	GCC Membership	SCC Membership
	<ul style="list-style-type: none"> • National Aeronautics and Space Administration • National Archives and Records Administration • National Capital Planning Commission • National Counterterrorism Center (NCTC) • NIST • NRC • Office of the Director of National Intelligence (ODNI) • Office of Personnel Management (OPM) • SEC • Smithsonian Institute • Social Security Administration • State of Maryland • State of Massachusetts • State of Michigan • State of Texas • TREAS • United States Capitol Police • United States Commodity Futures Trading Commission • United States Department of Education (DoED) • United States Trade Representative • USDA • USPS 	
Healthcare and Public Health	<ul style="list-style-type: none"> • American Association of Poison Control Centers • American Public Gas Association • Association of Public Health Laboratories • Association of State and Territorial Health Officials • Centers for Disease Control and Prevention • Commonwealth of Virginia, Department of General Services • Commonwealth of Virginia, Department of Veterans Affairs and Homeland Security 	<ul style="list-style-type: none"> • Abbott Laboratories • Advanced Medical Technology Association • Adventist Health System • Aetna, Inc. • Alexian Brothers Health System • Alexion Pharmaceuticals, Inc. • American Academy of Nurse Practitioners • American Academy of Pediatrics • American Academy of Physicians Assistants • American Association of Blood Banks • American Association of Colleges of Pharmacy • American Association of Tissue Banks • American College of Emergency Physicians • American College of Occupational and Environmental Medicine • American Health Care Association • American Hospital Association • American Medical Depot

Sector	GCC Membership	SCC Membership
	<ul style="list-style-type: none"> • County of Hennepin (Minnesota), Public Health • County of Nassau (New York), Department of Health • Department of Veterans Affairs • DHS • DOD • DOE • DOI • DOJ • DOS • DOT • HHS • NACCHO • National Indian Health Board • Sandia National Laboratories • Southern Nevada, Health District • State of Connecticut, Department of Public Health • State of Maryland, Department of Health • State of Michigan, Department of Health • State of New Jersey, Office of Homeland Security and Preparedness • State of Oregon, Office of Emergency Management • State of Texas, Department of Health Services • USDA 	<ul style="list-style-type: none"> • American Nurses Association • American Osteopathic Association • American Red Cross • America's Health Insurance Plans • Amgen, Inc. • Antelope Valley Healthcare District • Archdiocese of Washington • Association of Healthcare Resource & Materials Management Professionals • Association of State Floodplain Managers • Atlantic Health Systems • Baxter Healthcare, Inc. • Baylor Health Care System • Biotechnology Industry Organization • Blue Cross and Blue Shield Association • Blue Shield California • Brooklawn Memorial Park/Johnson Memorial Medical Center • Business Continuity Consulting • Caliber Security Partners • Cardinal Health • Carolinas Regional Healthcare System • Casket and Funeral Supply Association of America • Catholic Cemetery Conference • Chicago Veterinary Medical Association • Children's Medical Center of Dallas • Cisco Systems, Inc. • Compass Rose LLC • Condition Zebra • Cook Children's Northeast Hospital • Corporate Safety, Security, and Building Services • Dartmouth Hitchcock Medical Center • DaVita Healthcare Partners • Dayton Fire Department (Ohio) • Divergent Group, LLC • Dodge Company • Emergent BioSolutions • Excela Health System • Flattery Touch Healthcare Consulting • Gamxing, Inc. • Generic Pharmaceutical Association • George Washington University Medical Center • Global Institute for Cybersecurity and Research • Greater New York Hospital Association • Group Health Cooperative • Health Industry Distributors Association • Health Promotion Consultants • Healthcare Distribution Management Association • Healthcare Information and Management Systems Society • Healthcare Quality Management AETNA • Healthcare Ready • Henry Ford Health System • Henry Schein • Highmark Health Services

Sector	GCC Membership	SCC Membership
		<ul style="list-style-type: none"> • HITRUST • Hofstra North Shore-LIJ School of Medicine • Horan & McConaty Funeral Services • Horizon Blue Cross Blue Shield of New Jersey • Hospital Association of Southern California • Hospital Corporation of America • HSS Inc. • Humana • Infragard EMP SIG • Inova Health System • Institute for CI Technology • International Association for Healthcare Security and Safety • International Cemetery, Cremation and Funeral Association • IP Services • James B. Haggin Memorial Hospital • Johns Hopkins University • Joint Commission, The • Kaiser Permanente • Kaleida Health • Kidney Community Emergency Response Coalition • Knowledge Center Enterprises, LLC • Laboratory Corporation • LaFayette General Medical Center • Mary Washington Healthcare • Matthews Cremation • Mayo Clinic • McAfee • Medco Health Solutions, Inc. • Medline Industries, Inc • Medtronic • Medxcel • Memorial Sloan Kettering Cancer Center • Merck & Co., Inc. • Monmouth Ocean Hospital Service Corporation • Mount Sinai & Schwab Rehabilitation Hospitals • Nashville Supply Chain Services • National Association of Chain Drug Stores • National Association of Psychiatric Health Systems • National Funeral Directors Association • National Funeral Directors & Morticians Association • National Health Information Sharing and Analysis Center • Nemours Foundation, The • Nevada Hospital Association • New Jersey Hospital Association • Nova Southeastern University • Orlando Health • Palmetto Health Tuomey • Pfizer • Purdue Pharma Technologies • Reclamere, Inc. • Roswell Park Cancer Institute • Saint Louis University Hospital • Samaritan Health Services

Sector	GCC Membership	SCC Membership
		<ul style="list-style-type: none"> • Sempermed USA, Inc. • Siemens Healthcare USA • SMA Technology Group • Southern California Orthopedic Institute • Spectrum Healthcare Resources • St. Luke's Health System • Stanford Health Care/Stanford Children's Health • Stanley Funeral Homes • Strategic Marketplace Initiative • Tauri Group • Technology Partners, Inc. • Tenet Healthcare Corporation • Texas A&M Health Science Center • Texas A&M University • Texas Biomedical Research Institute • Tronex International Incorporated • UAB Health Systems • United Healthcare • UnitedHealth Group • University of California Los Angeles Medical Center Occupational Health Facility • University of Medicine and Dentistry, New Jersey • University of South Alabama • University of Texas, MD Anderson Cancer Center • University of Texas Medical Branch at Galveston • University of Washington Medicine • Valley Health System • Van Scoyoc Associates • Verizon • Virginia Commonwealth University Health System • Virginia Hospital and Healthcare Association • Walgreens • Washington Occupational Health Associates, Inc. • WellPoint, Inc. • Zenith American Solutions
Information Technology	<ul style="list-style-type: none"> • DHS • DOC • DOD • DOE • DOI • DOJ • DOS • GSA • Office of Management and Budget 	<ul style="list-style-type: none"> • ACT-The App Association • Adobe Systems • Advanced Micro Devices (AMD) • Afilias USA, Inc. • Araxid • Arbor Networks • Aveshka • Bell Canada • Biofarma • Bivio Networks • Blackberry • Business Software Alliance • CA Technologies • Center for Internet Security • Certichron, Inc. • Cisco Systems, Inc. • Coalfire Systems, Inc. • Computer and Communications Industry Association

Sector	GCC Membership	SCC Membership
		<ul style="list-style-type: none"> • Computer Sciences Corporation • Computing Technology Industry Association • Core Security Technologies • Cyber Pack Ventures, Inc. • Dell Inc. • Deloitte & Touche LLP • Dunrath Capital • Dynetics, Inc. • eBay, Inc. • Echelon One • e-Management • EMC Corporation • Entrust, Inc. • Equifax, Inc. • EWA Information & Infrastructure Technologies, Inc. • Exelis, Inc. • FireEye, Inc. • Google • Green Hills Software • Hatha Systems • Hewlett Packard • IBM Corporation • Information Technology Industry Council • Information Technology - Information Sharing & Analysis Center • Intel Corporation • Internet Security Alliance • (ISC)2 • ITT Corporation • iWire365, Inc. • Juniper Networks • KPMG LLP • Kwictech Interactive Inc. • L-3 Communications • Lancorpe, Inc. • LGS Innovations • Litmus Logic, LLC • Lockheed Martin • Lumeta Corporation • Lunarline, Inc • Microsoft Corporation • Motorola • Netstar-1 Government Consulting, Inc. • NeuStar • Northrop Grumman • NTT Communications Corporation • One Enterprise Consulting Group, LLC • Palo Alto Networks • Pragmatics • Rackspace, Inc. • Raytheon Company • Reclamere • Renesys Corporation

Sector	GCC Membership	SCC Membership
		<ul style="list-style-type: none"> • SAFE-BioPharma Association • SafeNet Gemalto, Inc. • SAIC • Seagate Technology • SecureState, LLC • Sentar, Inc. • Serco, Inc. • SI Organization, The • Siemens Healthcare, USA • Sony • Symantec Corporation • System 1, Inc. • TASC, Inc. • Team Cymru • TechAmerica • Telecommunications Industry Association • TeleContinuity, Inc. • Terremark Worldwide, Inc. • TestPros, Inc. • Themis Computer • Triumfant • Tyco International • U.S. Internet Service Provider Association • Unisys Corporation • Vanguard Defense Industries • Vencore • VeriSign Authentication Services • Verizon • Vostrom • Xerox
Nuclear Reactors, Materials, and Waste Sector	<ul style="list-style-type: none"> • Conference of Radiation Control Program Directors • DHS • DOD • DOE • DOJ • DOS • DOT • EPA • HHS • NRC • Organization of Agreement States 	<ul style="list-style-type: none"> • Dominion Generation • Exelon Generation Company, LLC • Harvard University / Boston Children's Hospital • Mallinckrodt Pharmaceuticals • Nuclear Energy Institute • Oregon State University • Reed College • Rutgers University • Security Engineering Associates • University of Missouri
Transportation Systems	<ul style="list-style-type: none"> • American Association of State Highway and Transportation Officials • DHS • DOC • DOD • DOE • DoED • DOJ 	Aviation Mode Subsector: <ul style="list-style-type: none"> • Aerospace Industries Association • Aircraft Owners and Pilots Association • Airlines for America • Airports Consultants Council • Airports Council International-North America • American Association of Airport Executives • Boeing Company, The • Cargo Airline Association

Sector	GCC Membership	SCC Membership
	<ul style="list-style-type: none"> • DOS • DOT • GSA • HHS • IACP • National Association of State Directors of Pupil Transportation • NRC • NSA • National Transportation Safety Board (NTSB) • State of Florida, Department of Energy • USDA <p>Aviation Mode Subsector:</p> <ul style="list-style-type: none"> • DHS • DOC • DOD • DOJ • DOS • DOT • NCTC • NTSB • ODNI • USPS <p>Freight Rail Mode Subsector:</p> <ul style="list-style-type: none"> • DHS • DOD • DOT <p>Highway and Motor Carrier Mode Subsector:</p> <ul style="list-style-type: none"> • American Association of State Highway and Transportation Officials • DHS • DOC • DOD • DOE • DoED • DOJ • DOT • GSA • HHS • IACP • National Association of State Directors of Pupil Transportation • NRC • NSA 	<ul style="list-style-type: none"> • National Air Carrier Association • National Air Transportation Association • National Business Aviation Association, Inc. • Regional Airline Association <p>Freight Rail Mode Subsector:</p> <ul style="list-style-type: none"> • Alaska Railroad Corporation • American Short Line and Regional Railroad Association • Amtrak • Anacostia and Pacific Company, Inc. • Association of American Railroads • Burlington Northern Santa Fe Railway • Canadian National Railway Company • Canadian Pacific Railway • Capital Metro Transit • Conrail • CSX Transportation • Florida East Coast Railway • Genesee & Wyoming, Inc. • Indiana Harbor Belt Railroad • Iowa Interstate Railroad Ltd. • Kansas City Southern Railway Company • Massachusetts Bay Transportation Authority • Metra – Metropolitan Rail • Metropolitan Transportation Authority (New York) • New Jersey Transit • Norfolk Southern • Pan Am Railway • Union Pacific Railroad Company • Veolia Transportation • Virginia Railway Express • Wheeling & Lake Erie Railway <p>Highway and Motor Carrier Mode Subsector:</p> <ul style="list-style-type: none"> • American Bus Association • American Chemistry Council • American Logistics Aid Network • American Petroleum Institute • American Trucking Association • BusBank, The • CAT Eyes • Con-Way, Inc. • Detroit-Windsor Truck Ferry • First Student, Inc. • Greyhound • Inoventures, LLC • Institute of Makers of Explosives • Intermodal Association of North America • Kenan Advantage Group • Mid-States Express, Inc. • National Association of Pupil Transportation • National Association of Small Trucking Companies • National Association of State Directors of Pupil Transportation Services

Sector	GCC Membership	SCC Membership
	<ul style="list-style-type: none"> State of Florida, Department of Energy USDA <p>Maritime Mode Subsector:</p> <ul style="list-style-type: none"> DHS DOC DOD DOE DOJ DOT <p>Mass Transit and Passenger Rail Mode Subsector:</p> <ul style="list-style-type: none"> DHS DOD DOJ <p>Pipeline Mode Subsector:</p> <ul style="list-style-type: none"> DHS DOD DOE DOJ DOT <p>Postal and Shipping Mode Subsector:</p> <ul style="list-style-type: none"> DHS DOD DOT HHS USPS 	<ul style="list-style-type: none"> National School Transportation Association National Tank Truck Carriers, Inc. Owner-Operator Independent Drivers Association PITT Ohio Express Schneider National Seaton & Husk, LP Sentinel Transportation SLT Express Taxicab, Limousine and Paratransit Association Transportation Research Board Tri-State Motor Transit Company Truck Rental and Leasing Association United Motorcoach Association <p>Maritime Mode Subsector:</p> <ul style="list-style-type: none"> N/A <p>Mass Transit and Passenger Rail Mode Subsector :</p> <ul style="list-style-type: none"> American Public Transportation Association Amtrak Bay Area Rapid Transit Chicago Police Department Chicago Transit Authority Dallas Area Rapid Transit / Trinity Railway Express Denver Regional Transportation District Greater Cleveland Regional Transit Authority, The King County Department of Transportation Los Angeles County Metropolitan Transportation Authority Los Angeles Sheriff's Department Maryland Transit Administration Massachusetts Bay Transportation Authority Metropolitan Atlanta Rapid Transit Authority Metropolitan Transit Authority of Harris County Metropolitan Transportation Authority, New York Minneapolis Metro Transit New Jersey Transit New York Police Department Northeast Illinois Commuter Railroad Corporation (Metra) Portland Police Department, Oregon Southeastern Pennsylvania Transportation Authority Utah Transit Authority Washington Metropolitan Area Transit Authority <p>Pipeline Mode Subsector:</p> <ul style="list-style-type: none"> American Fuel and Petrochemical Manufacturers American Gas Association American Petroleum Institute Association of Oil Pipe Lines Canadian Energy Pipeline Association Interstate National Gas Association of America National Fuel <p>Postal and Shipping Mode Subsector:</p>

Sector	GCC Membership	SCC Membership
		<ul style="list-style-type: none"> • DHL International • FedEx Corporation • United Parcel Service of America
Water and Wastewater	<ul style="list-style-type: none"> • Association of State Drinking Water Administrators • DHS • DOD • DOI • DOJ • DOS • Environmental Council of the States • EPA • HHS • Montana Department of Environmental Quality • NACCHO • NARUC • State of New Hampshire, Department of Environmental Services • USDA 	<ul style="list-style-type: none"> • Alexandria Renew Enterprises • American Water • American Water Works Association • Association of Metropolitan Water Agencies • Boston Water and Sewer Commission • Breezy Hill Water and Sewer Company • Conway County Regional W.D.D. • Davidson Water, Inc. • District of Columbia Water and Sewer Authority • National Association of Clean Water Agencies • National Association of Water Companies • National Rural Water Association • New York City Department of Environmental Protection • Onondaga County Water Authority • Orlando Utilities Commission • Prince William County Service Authority • San Jose Water Company • Spartanburg Water • Trinity River Authority of Texas • Water Environment Federation • Water Environment Research Foundation • Water Information Sharing and Analysis Center • Water Research Foundation

Appendix 3: Communications

This appendix describes how emergency communications systems and protocols will support public messaging in a long-duration power outage. While some unique messaging systems/processes for a power outage are described below as a part of the information sharing methods, the majority of actions are consistent with Response and Recovery FIOPs, ESF #2 – Communications and ESF #15 – External Affairs annexes to the NRF.

Situation

Since communications systems rely on electricity, any incident that causes long-term power outages will create a challenging environment for telecommunications and public messaging. Situational awareness will be difficult to obtain and information may change frequently before an incident stabilizes. This will complicate efforts to deploy and employ resources effectively. Local impacts will vary widely based on direct and cascading impacts to CI, the level and quality of local preparedness efforts, and the availability and capabilities of local, state, tribal, territorial, and insular area resources.

Impacts that result from a long-duration power outage will vary depending on the incident. An incident that results in physical damage to electric power infrastructure (e.g., catastrophic earthquake) will also likely damage or destroy telecommunications infrastructure and require extended federal communications support. Incidents that may not result in physical damage to communications infrastructure (e.g., some space weather) may require non-traditional response and recovery strategies that mitigate telecommunications systems degradation and public messaging when an outage lasts for a significant period.

Additionally, resources that would otherwise be available through mutual aid agreements, the Emergency Management Assistance Compact, and private-sector contracts (e.g., fuel, food, and water) may not be available due to widespread impact and finite capacity. This could adversely affect communications restoration efforts and extend the need for federal support. In the event of a major communication outage resulting from power loss, the applicable state emergency communications annexes to the regional emergency communications plans developed by the FEMA Disaster Emergency Communications Division will be used to outline state capabilities, state restoration priorities, and pre-identified communications risk and interdependencies.

Finally, the loss of power will affect every other CI sector, and all of them rely on communications for response and restoration operations. Therefore, the operational communications community will actively engage non-traditional stakeholders throughout every phase of response and recovery, as well as develop and coordinate continuity of operations plans to avoid prolonging or producing more extensive, deeper, and longer term losses post-disaster.

Concept of Support

Federal operational communications objectives are consistent with the operational communications critical tasks from the Response FIOP:

- Ensure the capacity to communicate with both the emergency response community and the affected populations and establish interoperable voice and data communications between local, state, tribal, territorial, insular area, and federal first responders.
- Reestablish sufficient communications infrastructure within the affected areas to support ongoing life-sustaining activities, meet basic human needs, and transition to recovery.

Except where a pre-negotiated agreement exists, departments and agencies support their own personnel with organic communications assets to the greatest extent possible. National stockpiles of communications assets (e.g., radios, repeaters, smart devices) that might be available on smaller-scale disasters will likely not be available or will not be sufficient. Due to projected lack of sufficient stockpile tactical gear, prioritization should be given to recovering public networks, so that all escorts have a means of coordinating federal departments and agencies and should also be prepared to deploy knowledgeable communications personnel to support their organic equipment. Incident-area technical expertise may not be available, especially in the immediate response phase.

Federal resources will be prioritized to support continuity of government and continuity of operations at all levels—required to effectively coordinate response and recovery operations—and to provide command and control connectivity to federal response teams. Continuity of government and continuity of operations support may require that federal assets be employed at local or state government leadership offices (e.g., governor’s office) and EOCs when the capabilities of state or local entities are damaged, destroyed, or otherwise unusable to support this function. Federal teams engaged in incident management, lifesaving, and life-sustaining operations shall be connected into a command and control network(s) that enables such teams to communicate with higher, lower, and adjacent command elements.

Public Messaging

During a long-term power outage, public messaging informs all affected segments of society by providing credible messaging to expedite the delivery of emergency services and aid the public in taking protective actions.

A long-term power outage brings unique challenges for communications between government officials and the public, since traditional public information and warning mechanisms rely on electricity. Communication through television, radio, email, and social media may not be possible for the majority of the public if no electricity is available to power the apparatuses used to transmit and receive this information.

In an incident that does not result in significant infrastructure damage, some methods of communications will work immediately following an incident and then degrade over time. In these cases, it is estimated that following a power loss, there will be a four- to eight-hour window in which dissemination of information through the Emergency Alert System and the Integrated Public Alert and Warning System (IPAWS) will be most effective. After that window, communication abilities are expected to degrade, due to loss of battery power on devices such as radios and mobile phone. A typical smart device may hold a battery charge for five to eight hours, though methods of recharging may be available (e.g., car battery, solar charger, and hand crank device). The rate of failure will depend heavily on local preparedness; cellular towers, for

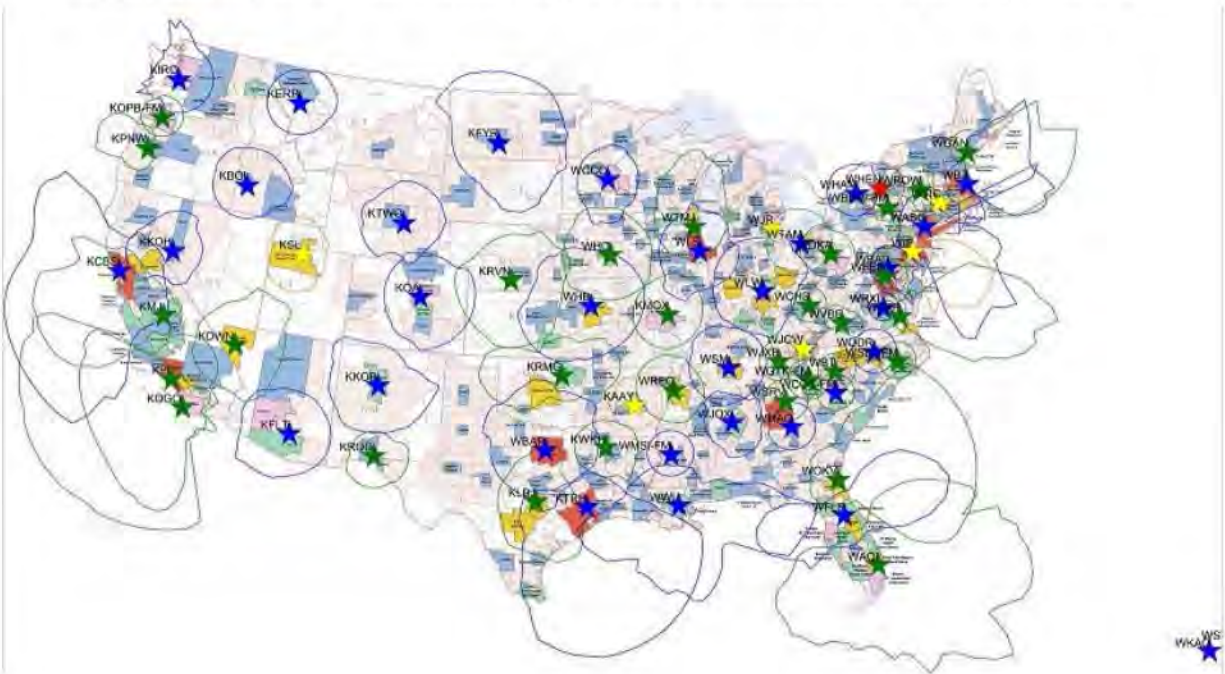
example, may have backup batteries or a generator backup system that could maintain power for hours to a few days.

In an incident where infrastructure damage does occur, communications may be lost immediately due to downed lines and damaged equipment. However, as the extent of damage will not be immediately clear, all available means of accessible, linguistically appropriate, and timely communications with the public should be employed.³⁰ Operational communications personnel will have to work closely with External Affairs, Disability Integration Advisors; system owners; ESF #2 and ESF #15 departments and agencies; and local, state, tribal, territorial, and insular area emergency communications officers and public information officers to develop the best technical strategies to communicate with the public.

The National Public Warning System (NPWS), operated by IPAWS, provides a nationwide all-hazards warning capability for the President in the event of a national catastrophic disaster. The core of the NPWS is comprised of privately owned commercial and non-commercial radio broadcast stations that cooperatively participate with FEMA to provide a resilient information broadcasting capability. As denoted in Figure 15 and Table 7, 77 stations participate in the program. Known as FEMA Primary Entry Point (PEP) stations, they collectively provide coverage for approximately 90 percent of the Nation's population. FEMA installed power and other resiliency features at these PEP stations and sustains the capability to support the NPWS mission. Stations outside the NPWS (more than 20,000) will need to request any resources through their state emergency management channels for local broadcasting needs.

FEMA has worked with USACE to harden these stations against some threats, such as electromagnetic pulse, and equip them with backup transmitters, power generation, and fuel systems enabling broadcasting to continue for an extended period in the event of loss of a commercial power source. As fuel runs out, FEMA may also re-supply fuel to these stations to enable broadcast capabilities during a long-term power outage. State and local public safety officials can leverage the FEMA PEP station capabilities in coordination with FEMA and the owner and operators of the private sector facilities.

³⁰ Accessible communication means and methods for employees must be identified, planned for and practiced to not only ensure continuity for them but for the important programs and functions they manage.

Figure 15: Footprint of Radio Stations Supplied with Additional Fuel and Resiliency Resources**Table 7: Primary Entry Point Radio Stations by FEMA Regions**

Station	City	State	FEMA Region
WTIC	Hartford	CT	I
WBZ	Boston	MA	I
WGAN	Portland	ME	I
WROW	Albany	NY	II
WBNW	Endicott	NY	II
WABC	New York	NY	II
WHAM	Rochester	NY	II
WHEN	Syracuse	NY	II
WKAQ	San Juan	PR	II
WSTA	Charlotte Amalie	VI	II
XM	Washington	DC	III
NPR	Washington	DC	III
WBAL	Baltimore	MD	III
WFED	Wheaton	MD	III
WTEL	Philadelphia	PA	III
KDKA	Pittsburgh	PA	III
WTAR	Norfolk	VA	III
WRXL	Richmond	VA	III
WVBE	Roanoke	VA	III
WCHS	Charleston	WV	III
WJOX	Birmingham	AL	IV
WOKV	Jacksonville	FL	IV
WAQI	Miami	FL	IV
WFLF	Pine Hills	FL	IV
WSRV	Gainesville	GA	IV
WMAC	Macon	GA	IV
WMSI	Jackson	MS	IV

Station	City	State	FEMA Region
WLW	Cincinnati	OH	V
WTAM	Cleveland	OH	V
WTMJ	Milwaukee	WI	V
KAAY	Little Rock	AR	VI
WWL	New Orleans	LA	VI
KWKH	Shreveport	LA	VI
KKOB	Albuquerque	NM	VI
KRMG	Tulsa	OK	VI
KLBJ	Austin	TX	VI
KROD	El Paso	TX	VI
WBAP	Fort Worth	TX	VI
KTRH	Houston	TX	VI
PREMIERE	San Antonio	TX	VI
WHO	Des Moines	IA	VII
WHB	Kansas City	MO	VII
KMOX	St Louis	MO	VII
KRVN	Lexington	NE	VII
KOA	Denver	CO	VIII
KERR	Polson	MT	VIII
KFYR	Bismarck	ND	VIII
KSL	Salt Lake City	UT	VIII
KTWO	Casper	WY	VIII
WVUV	Fagaitua	AS	IX
KFLT	Tucson	AZ	IX
KMJ	Fresno	CA	IX
KFI	Los Angeles	CA	IX
PREMIERE	Los Angeles	CA	IX

Station	City	State	FEMA Region
WBT	Charlotte	NC	IV
WSFL	New Bern	NC	IV
WQDR	Raleigh	NC	IV
WCOS	Columbia	SC	IV
WGTK	Greenville	SC	IV
WJCW	Johnson City	TN	IV
WJXB	Knoxville	TN	IV
WREC	Memphis	TN	IV
WSM	Nashville	TN	IV
WLS	Chicago	IL	V
WJR	Detroit	MI	V
WCCO	Minneapolis	MN	V

Station	City	State	FEMA Region
KOGO	San Diego	CA	IX
KCBS	San Francisco	CA	IX
KTWG	Agana	GU	IX
KDWN	Las Vegas	NV	IX
KKOH	Reno	NV	IX
KFQD	Anchorage	AK	X
HEOC	Honolulu	HI	X
KBOI	Boise	ID	X
KPNW	Eugene	OR	X
KOPB	Portland	OR	X
KIRO	Seattle	WA	X

Some legacy stations do not include EMP protection.
FEMA plans to modernize all stations with EMP protection by 2026.

Operational Coordination

Communications Working Group

A large-scale/long-duration power outage will likely exceed the capabilities of operational communications incident management and support as described in the Response FIOP. A Communications Working Group (CWG) may be established in the NRCC. The CWG will coordinate with resource support to help manage the national response and to recommend resource priorities. At a minimum, the CWG shall consist of representatives from the following:

- ESF #2 – Communications
- ESF #7 – Logistics
- ESF #15 – External Affairs
- FEMA Office of National Continuity Programs
- FEMA Office of the Chief Information Officer
- FEMA Office of Chief Counsel
- FEMA Disability Integration and Coordination Advisor
- American Red Cross
- American Radio Relay League
- Communications ISAC.

The membership of the CWG will be flexible and scalable to involve additional stakeholders as necessary. As such, relevant non-ISAC private sector companies may be asked to participate.

The CWG is responsible for:

- Collecting, analyzing, and disseminating communications situational awareness;

- Prioritizing limited resources based on national guidance;
- Identifying and addressing requirements that cannot be solved at a lower level; and
- Developing solutions to unique stakeholder problems as they arise.

National Joint Information Center

Due to the severity of this scenario and need for coordinated national messaging, a National Joint Information Center (JIC) will be established to provide unified, accessible messaging. The JIC serves as the federal incident communications coordination center and is staffed by incident communications response personnel that rapidly mobilize to coordinate the federal external communications effort. It leverages a variety of conference call mechanisms to coordinate across state, tribal, federal, and private sector entities, assuming telephone lines are operational. The Private Sector Incident Communications Conference Line (PICCL) is a standing line and distribution list, comprised of private sector, CI sector, and major national association corporate communicators. The PICCL, maintained by NPPD Office of External Affairs, is provided to component offices to ensure private sector communicators receive timely public information during an incident requiring a coordinated federal response. During a response in which FEMA stands up the NBEOC, NBEOC coordination calls may be initiated with private sector partners across various sectors.

An ESF #15 – External Affairs Operations Director may be delegated to lead the federal interagency team. On the other hand, since DOE is the SSA for the energy sector, DOE and DHS may co-lead the National JIC.

Appendix 4: Roles and Responsibilities

Given that the roles and responsibilities for restoring power, maintaining infrastructure operations, and delivering critical support resides across public, private, and community organizations, it is paramount to synchronize response and recovery concepts across public, private, and other non-governmental sector operations at the local, state, tribal, territorial, insular area, and federal levels.

This section provides an overview of the power-specific roles and responsibilities of the key public and private stakeholders who are involved in the implementation of the POIA. General emergency response or recovery roles and responsibilities are captured in the NRF, NDRF, and Response and Recovery FIOPs.

Table 8: Private Sector Association Roles in a Long-Term Power Outage Incident

Organization	Roles in a Long-Term Power Outage Incident
American Public Power Association (APPA)	<ul style="list-style-type: none"> Coordinates the restoration of power throughout the public power community. Facilitates two-way communications with the applicable federal agencies or other trade associations. Participates in ESCC and DOE SSA and ESF #12 – Energy efforts.
Edison Electric Institute (EEI)	<ul style="list-style-type: none"> Represents all United States investor-owned electric companies and coordinates with federal agencies as necessary. For regional outage incidents, supports its members' mutual assistance efforts through Regional Mutual Assistance Groups. Upon activation of a NRE, serves as the industry liaison to the chief executive officers of its member companies and coordinates with senior government officials and with national organizations representing state and local interests. Serves as an industry liaison to state regulatory agencies when requested by a member. Convenes periodic conference calls with the member company chief executive officers and with senior government officials. Serves as the investor-owned electric company industry's primary national information resource, and provides a broad, national perspective on the event through media and public relations activities and national stakeholder outreach, including relevant federal agencies, social media support, and industry-wide communication and coordination to relevant stakeholders. Participates in ESCC coordination among senior government and industry executives to ensure effective response, appropriate prioritization and allocation of resources, and support for deviation from standard procedures during an incident.
National Association of Regulatory Utility Commissioners (NARUC)	<ul style="list-style-type: none"> During a major power outage, links the necessary agencies together for situational awareness and response coordination. Represents electric cooperatives, and coordinates with federal agencies during an outage. Supports cooperative mutual assistance program activation and coordinates with other member trade associations of the electric utility industry.
National Association of State Energy Officials (NASEO)	<ul style="list-style-type: none"> Supports the EEAC program that provides state and territorial energy emergency points of contact. Assists DOE in facilitating communications and information sharing among impacted states when energy supply disruptions occur and with coordination calls and situational reporting by states. Provides technical support to state agencies that have a role in energy response or restoration. Advises states and the Federal Government on energy issues in general and energy emergencies.

Organization	Roles in a Long-Term Power Outage Incident
North American Electric Reliability Corporation (NERC)	<ul style="list-style-type: none"> Serves as the ERO for North America, subject to oversight by the FERC and governmental authorities in Canada. NERC's jurisdiction includes users, owners, and operators of the BPS, which serves more than 334 million people. Coordinates the E-ISAC and oversees the Bulk Power System Awareness program. <p>E-ISAC:</p> <ul style="list-style-type: none"> Provides threat information, mitigation advice, and alert products to its members. Supports the ESCC in fulfilling its role. <p>NERC Bulk Power System Awareness:</p> <ul style="list-style-type: none"> Collects and analyzes information on system disturbances and other incidents that have an impact on the North American BPS, and disseminates this information to internal departments, registered entities, regional organizations, and governmental agencies as necessary. Monitors ongoing storms, natural disasters, and geopolitical events that may potentially affect or are currently affecting the BPS.
National Rural Electric Cooperative Association (NRECA)	<ul style="list-style-type: none"> If a disaster necessitates the activation of the ESCC, NRECA and the cooperative sector closely coordinate with the ESCC and local, state, and federal authorities.
Multi-State Fleet Response Working Group	<ul style="list-style-type: none"> Identifies existing protocols, policies, procedures, systems, organizations, and technologies that are already in place within government and the private sector that impact fleet movement. Catalogs and disseminates information related to state entrance and pass-through requirements. Conducts annual meetings and exercises between private sector and state/local government participants. Identifies common operational impediments and gaps and provides recommendations for solutions. Coordinates with state and local government planning and operational activities and regulatory requirements. Promotes awareness, education, and integrated planning. Develops products and services. Develops recommendations to public and private sector operational leadership. Enhances communication between public and private sector participants. Leverages the efforts and activities of the Federal Government and its agencies who may play a role in this effort.

Table 9: Local, State, Tribal, Territorial, and Insular Area Government Roles in a Long-Term Power Outage Incident

Roles and Responsibilities in a Long-Term Power Outage Incident
<ul style="list-style-type: none"> Identify what may be exceptions to the normal utility prioritization process when the situation requires utilities to reprioritize based on significant consequences or cascading interdependencies resulting from some unique aspect of the event that might not have been foreseen. Coordinate with utilities on prioritizing the restoration of power to CI and the public.

Table 10: Federal Government Roles in a Long-Term Power Outage Incident

Agency	Roles and Responsibilities in a Long-Term Power Outage Incident
Department of Agriculture (USDA)	<ul style="list-style-type: none"> Provides technical support and access to damage assessments, impacts, needs, and restoration efforts for electric power generation, transmission, and distribution in Rural Development Utilities Program-financed systems. Provides nutrition assistance to affected people through Supplemental Nutrition Assistance Program (SNAP), Disaster-SNAP, and the Women Infants and Children program. Produces economic impact information and research on food and agriculture.

Agency	Roles and Responsibilities in a Long-Term Power Outage Incident
Department of Defense (DOD)	<ul style="list-style-type: none"> Ensures the health and well-being of livestock, wildlife, and crops. Ensures the safety and defense of the Nation's supply of meat, poultry, and processed egg products. <ul style="list-style-type: none"> DOD supports federal actions related to power outage incidents requiring temporary power restoration assistance. <p>Defense Logistics Agency Energy Office:</p> <ul style="list-style-type: none"> Provides high-end generators through a memorandum of agreement between DLA and FEMA. <u>Bulk Petroleum Services</u>—Provides contract support for the bulk petroleum supply chain, including worldwide acquisition of fuel-related services such as government-owned, contractor-operated defense fuel support points and contractor-owned and -operated defense fuel support points, alongside aircraft fuel delivery, lab testing and environmental compliance, assessment, and remediation. <u>Direct Delivery Fuels/Commercial Specification Fuels</u> – Provides worldwide acquisition and integrated material management of commercial fuels delivered directly to military and federal civilian customers. <p>United States Army Corps of Engineers:</p> <ul style="list-style-type: none"> Responsible for providing temporary power to designated critical facilities. Maintains temporary emergency power restoration resources such as USACE Emergency Power Planning and Response Teams, Advance Contracting Initiative contractors, 249th Engineer Battalion, SMEs, and the USACE Deployable Tactical Operations System for communications. Assesses critical facilities to determine generator and other requirements for temporary emergency power. Initiates long-term recovery efforts by assessing and coordinating the CI restoration. Prepares, delivers, installs, and de-installs generators. Provides operations, fueling, service, and maintenance of installed generators. Servicing, maintains, and repairs generators prior to their return to long-term storage to ensure they are fully mission capable.
Department of Energy (DOE)	<ul style="list-style-type: none"> Serves as the SSA for the energy sector; the primary federal agency responsible for collaborating with the energy sector on emergency preparedness requirements. During Stafford Act emergencies, which require coordinated federal support, directs ESF #12 activities for the energy sector. Addresses significant disruptions in energy supplies for any reason, whether caused by physical disruption of energy transmission and distribution systems, unexpected operational failure of such systems, acts of terrorism or sabotage, or unusual economic, international, or political events. Assesses the impact that damage to an energy system in one geographic region may have on energy supplies, systems, and components in other regions relying on the same system. Provides information, in cooperation with local, state, tribal, territorial, insular area, and federal governments and energy industry officials, on energy supply and demand conditions and the requirements for and availability of materials and services critical to energy supply systems (e.g., outages, restoration status, energy infrastructure status). Serves as a federal point of contact with the energy industry for information sharing and requests for assistance from private and public sector owners and operators. Provides technical and subject matter expertise regarding energy supplies and systems to energy asset owners and operators, other federal agencies, and local, state, tribal, territorial, and insular area governments, and conducts field assessments as needed. Exchanges information with the states during a power outage, including the scope, outages and potential duration by county, and response and recovery efforts through the EEACs. Coordinates and shares information with the Electricity and the Oil and Natural Gas SCCs, the ERO, and various associations that represent portions of the energy sector.

Agency	Roles and Responsibilities in a Long-Term Power Outage Incident
	<ul style="list-style-type: none"> Serves as a source for reporting of critical energy infrastructure damage and operating status for the energy systems within an impacted area, as well as the impacts on regional and national energy systems. Applies DOE's technical expertise to help ensure the security, resiliency, and survivability of key energy assets and critical energy infrastructure. <p>Bonneville Power Administration:</p> <ul style="list-style-type: none"> Operates and maintains about three-fourths of the high-voltage transmission within Idaho, Oregon, Washington, western Montana, and small parts of eastern Montana, California, Nevada, Utah, and Wyoming. <p>Southeastern Power Administration:</p> <ul style="list-style-type: none"> Through 23 USACE water projects, markets power to more than 491 wholesale customers in 10 southeastern states—Alabama, Florida, Georgia, southern Illinois, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia—serving over 12 million consumers. Schedules hydropower generation at the USACE facilities within its marketing area to ensure and maintain continuity of electric service to its customers. <p>Southwestern Power Administration:</p> <ul style="list-style-type: none"> Markets hydroelectric power in Arkansas, Kansas, Louisiana, Missouri, Oklahoma, and Texas from 24 USACE multipurpose hydroelectric facilities/dams, serving over eight million end-use customers. Operates and maintains 1,380 miles of high-voltage transmission lines, and owns numerous substations and switching stations, as well as a communications system to monitor and control the transmission of electricity that includes microwave, very high frequency radio, and state-of-the-art fiber optics. <p>Western Area Power Administration:</p> <ul style="list-style-type: none"> Operates and maintains an extensive, integrated, and complex high-voltage power transmission system to deliver power. Using this over-17,000-circuit-mile federal transmission system, sells and delivers reliable electric power to most of the western half of the United States BPS.
<p>Department of Homeland Security (DHS)</p>	<ul style="list-style-type: none"> The Secretary of Homeland Security is the principal federal official for domestic incident management and is responsible for coordinating federal operations within the United States to prepare for, respond to, and recover from terrorist attacks, major disasters, and other emergencies. <p>Federal Emergency Management Agency:</p> <ul style="list-style-type: none"> The FEMA Administrator serves as the principal advisor to the President, the Secretary of Homeland Security, and the Homeland Security Council regarding emergency management. Obtains the latest information on the status of the power outage from DOE, disseminates CI risk assessments to all authorized government agencies, and responds to requests for such information. Directs power outage questions, issues, and concerns from emergency management officials to DOE. Deploys and provides resources as appropriate to collect data for information analysis and situational awareness to support operational decisions during a power outage incident. Acquires material and resources to support local, state, tribal, territorial, and insular area response and recovery operations through existing contracts, and activates contracts that provide personnel, equipment, and supplies to support life-sustaining services (e.g., shelter, hydration, meals/food, emergency supplies, reunification services, durable medical equipment) resulting from a power outage. Coordinates overall staffing of federal emergency management activities at multiagency coordination centers, including which ESFs/RSFs are activated, the size and composition of the organizational structure, the level of staffing at multiagency coordination centers, and identification of required key positions. Provides strategic leadership to coordinate and prioritize federal resources and capabilities to areas affected by the power outage.

Agency	Roles and Responsibilities in a Long-Term Power Outage Incident
	<ul style="list-style-type: none"> Develop and promulgate continuity guidance across the whole community to increase the resiliency of the nation for all threats and hazards. <p>National Protection and Programs Directorate:</p> <ul style="list-style-type: none"> Leads the national effort to coordinate the overall federal effort to promote the security and resilience of the Nation's critical infrastructure. Office of Cyber Security & Communications: <ul style="list-style-type: none"> Serves as the SSA for the Communications and Information Technology sectors and provides national-level incident situation reporting for those sectors. Serves as the national coordinator for ESF #2 – Communications. Office of Emergency Communications: <ul style="list-style-type: none"> Coordinates planning for national security and emergency preparedness communications for the Federal Government. Helps emergency responders and government officials continue to communicate in the event of natural disasters, acts of terrorism, or other incidents. National Cybersecurity and Communications Integration Center: <ul style="list-style-type: none"> The operational component of CS&C and the national cyber CI center designated by the Secretary of Homeland Security; serves as a centralized location to coordinate and integrate operational elements involved in cybersecurity and communications reliance, including incident response. Engages Cyber Incident Response Teams to assist in identification of security vulnerabilities, develop mitigation strategies, and support incident response. Office of Infrastructure Protection: <ul style="list-style-type: none"> Serves as the national coordinator for the security and resilience of the Nation's CI in accordance with the Homeland Security Act and Presidential Policy Directive (PPD)-21. Maintains the NICC, the watch center for DHS NPPD IP, and the CI element of the National Operations Center. Serves as the national physical infrastructure center, designated by the Secretary of Homeland Security; gathers incident information on the impact to those sectors for which DHS NPPD IP serves as SSA to provide input for national CI situation reporting. Serves as the SSA for six of the critical sectors designated under PPD 21, providing guidance and support to other SSAs, and supporting CI incident response and recovery. DHS NPPD IP may be utilized to facilitate public-private coordination on a sector-by-sector basis in coordination with the SSA for that sector. Assigns Protective Security Advisors and Regional Directors to serve as liaisons between local, state, tribal, territorial, insular area, and federal government officials and owners and operators and as infrastructure liaisons at RRCCs and local, state, tribal, territorial, and insular area EOCs. Assigns an Infrastructure Liaison as the principal DHS NPPD IP representative and advisor to the Unified Coordination Staff when a JFO is established. Assesses dependencies, interdependencies, and cascading effects to recommend priorities to local, state, tribal, territorial, and insular area officials, to minimize cascading effects and to support recovery and restoration efforts. Gathers incident information on the impact to those sectors for which it serves as SSA to provide input for national CI situation reporting. Office of Cyber and Infrastructure Analysis (OCIA): <ul style="list-style-type: none"> Coordinates with the NICC and the NCCIC to provide infrastructure consequence analysis, decision support, and modeling capabilities to public and private sector partners. Develops an IOC List which prioritizes CI that may need support to maximize recovery and restoration efforts. Identifies dependencies on, interdependencies between, and cascading effects of an incident on CI. National Coordination Center for Communications: <ul style="list-style-type: none"> Joint governmental and communications industry partnership assisting in coordination, restoration and reconstruction of National Security and Emergency

Agency	Roles and Responsibilities in a Long-Term Power Outage Incident
	<p>Preparedness (NS/EP) communications supporting federal, SLTT, and industry needs</p> <ul style="list-style-type: none"> – Serves as the operational focal point of the Communications Information Sharing and Analysis Center (COMM-ISAC) – Identifies and Assists in resolving addresses cross-sector dependencies where communications is a limiting factor or communications requires support – Deploys ESF#2 communications expertise to NRCC, RRCC, field offices, and EOCs as appropriate.
Department of Health and Human Services (HHS)	<ul style="list-style-type: none"> • Provides federal assets and capabilities to support time-sensitive, life-saving, and life-sustaining public health and medical infrastructure as well as stabilization missions to supplement local, state, tribal, territorial, and insular area response and recovery capabilities. • Provides augmentation support for mass care and emergency assistance services. • Provides technical assistance in the form of impact analyses and recovery planning support of public health and medical services, as well as healthcare service delivery infrastructure, where appropriate. • Provides strategic leadership in coordinating care and movement of patients requiring evacuation. • Provides situational awareness regarding health and medical issues. • Provides support for long-term recovery, including collaborating with local, state, tribal, territorial, and insular area officials on prioritizing restoration of the public health and private medical and healthcare infrastructures to accelerate overall community recovery. • Coordinates linking HHS benefits programs with affected populations. • Through ESF #8 – Public Health and Medical Services, works toward mitigating issues pertaining to healthcare and public health CI, and protects the wholesomeness of food and food sources through increased monitoring.
Department of the Interior (DOI)	<p>Bureau of Land Management:</p> <ul style="list-style-type: none"> • Provides information on energy production and supply on federal lands. • Assesses damage to energy-related infrastructure. • Provides engineering and technical support as necessary. • Develops and maintains information on critical energy-related infrastructure on federal and tribal lands. <p>Bureau of Reclamation:</p> <ul style="list-style-type: none"> • Provides technical assistance for the assessment of hydroelectric facilities and reservoir water operations actions as they affect energy production. • Uses Bureau of Reclamation personnel to assist in the repair of damaged hydropower generation facilities. • Modifies operations at Bureau of Reclamation facilities to increase electrical generation to supplement losses in areas affected by the incident. • Uses hydroelectric plant internal restart.
Department of Justice (DOJ)	<ul style="list-style-type: none"> • Leads the law enforcement response to all terrorist and cyber or threats within federal criminal jurisdiction; supplements state and local law enforcement resources in certain circumstances. • Provides public safety and security assistance to support preparedness and response priorities when needed. • Provide law enforcement support to local, state, tribal, and territorial authorities to address public safety and security concerns if requested and with the requisite authority.
Department of State (DOS)	<ul style="list-style-type: none"> • Acts as the formal diplomatic mechanism for the majority of communications between the United States Government and other nations regarding the response to a domestic crisis. • Maintains the International Coordination Support Annex with United States interagency coordination to provide support and guidance to the United States Government on international coordination during the incident.

Agency	Roles and Responsibilities in a Long-Term Power Outage Incident
	<ul style="list-style-type: none"> • Coordinates and consults with foreign governments and international organizations during the power outage to determine what, if any, international and diplomatic impacts and implications exist. • Notifies foreign governments of travel restrictions and advises American citizens, businesses, and other United States social/economic entities abroad of the nature and extent of the power outage in the United States and any direct effect that it might have on their safety and security. • Works with local, state, tribal, territorial, insular area, federal, and NGO officials to support and facilitate liaison between foreign missions and nationals. • Coordinates non-energy federal assistance to cross-border communities impacted by the power outage. • Coordinates international offers of assistance based on needs conveyed by DHS or other federal departments and agencies, as stated in the International Assistance System, while managing and leveraging applicable bilateral and multilateral agreements and relations.
Department of Transportation (DOT)	<ul style="list-style-type: none"> • Actively posts information related to transportation permits, waivers, and other regulations and authorities that are applicable to a power outage on its contingency operations website. • Serves as one of four primary agencies that support USACE in the Infrastructure Systems RSF structure. • Supports communication and coordination needs relative to the overall mission of the Infrastructure Systems RSF. • Supports the Community Planning and Capacity Building and the Health and Social Services RSFs.
Environmental Protection Agency (EPA)	<ul style="list-style-type: none"> • Serves as the designated SSA lead for the water sector under HSPD-7 and the NIPP. • Works with the water sector in a preparedness role to encourage water utilities to coordinate with their power utilities on a prioritization list for power restoration after an outage. • Coordinates with the water sector (drinking water and wastewater facilities), including local, state, tribal, territorial, insular area, and federal government partners and the private sector, in support of ESF #3 – Public Works and Engineering. • Coordinates with DOE and state officials to approve and issue motor vehicle fuel supply waivers under the Clean Air Act and in support of ESF #12. • Exercises enforcement discretion, where appropriate, where EPA's environmental requirements could impede emergency operations of first responders or CI. • As the coordinating agency for ESF #10 – Oil and Hazardous Materials Response, addresses the cleanup of any oil and hazardous materials releases under an ESF #10 mission assignment or under the National Oil and Hazardous Substances Pollution Contingency Plan. It may decontaminate CI that is contaminated by oil or hazardous materials, including chemical, biological, radiological, or nuclear substances.
Federal Energy Regulatory Commission (FERC)	<ul style="list-style-type: none"> • Monitors and investigates significant power outages to identify causes and needed reliability improvements and to determine if reliability standards were violated. • Through emergency authority under section 1(15) of the Interstate Commerce Act, gives directions for preference or priority in transportation, embargoes, or movement of traffic whenever the Commission is of the opinion that an emergency requiring immediate action exists in any section of the country. • Acts on requests to waive tariff provisions during an emergency. • Shares timely actionable information regarding grid security with appropriate key personnel of owners, operators, and users of the critical electric infrastructure. • Share with, or receives from, any non-federal entity or the Federal Government a cyber threat indicator or defensive measure. • Receives prior notification of sector-specific alerts developed by the NERC-Electricity Information Sharing and Analysis Center (E-ISAC) in the event of a significant incident or threat that affects the BPS.

Agency	Roles and Responsibilities in a Long-Term Power Outage Incident
General Services Administration (GSA)	<ul style="list-style-type: none"> Provides contract support for generators and related items; also transportation services and leasing for space, as requested.
Nuclear Regulatory Commission (NRC)	<ul style="list-style-type: none"> Serves as the primary agency for federal response to radiological incidents at a facility or incidents caused by material that is licensed by the NRC or an NRC Agreement State. These facilities include, but are not limited to, commercial nuclear power plants, fuel cycle facilities, DOE-owned gaseous diffusion facilities operating under NRC regulatory oversight, independent spent fuel storage installations, radiopharmaceutical manufacturers, and research reactors. Performs an independent assessment of the incident and potential off-site consequences from FEMA disaster-initiated review and, as appropriate, provides recommendations concerning any protective measures. Performs oversight of the licensee, to include monitoring, evaluation of protective action recommendations, advice, assistance, and, as appropriate, direction. Dispatches, if appropriate, an NRC site team of technical experts to the licensee's facility.
Tennessee Valley Authority (TVA)	<ul style="list-style-type: none"> Provides electricity for business customers and local power distributors serving nine million people in parts of seven southeastern states, Alabama, Georgia, Kentucky, Mississippi, North Carolina, Tennessee, and Virginia. Assesses supply, system damage, and repair requirements within TVA. Supplies surplus power as required to the power grid. Supplies critical replacement parts and equipment as requested. Supplies technical expertise as requested.

Table 11: Non-Governmental Organization Roles in a Long-Term Power Outage Incident

Organization	Roles and Responsibilities in a Long-Term Power Outage Incident
American Red Cross (ARC)	<ul style="list-style-type: none"> Roles and responsibilities for the ARC are included in the ESF and RSF annexes and the Response and Recovery FIOPs.
National Voluntary Organizations Active in Disasters (NVOAD)	<ul style="list-style-type: none"> Roles and responsibilities for NVOAD are included in the ESF and RSF annexes and the Response and Recovery FIOPs.

Appendix 5: Power Outage Modeling Capabilities and Tools

A variety of modeling and situational awareness tools and capabilities exist that can provide situational awareness on energy-specific functions. Some of these tools are owned and operated by SMEs in dedicated modeling centers while others are available to end users to operate on their own devices (e.g., computers, smartphones, and tablets). This appendix includes an explanation of the tools, tool management, and tool access; however, it should be noted that DOE is the source for all status and official reporting for the Federal Government for the energy sector.

Modeling Tools

EAGLE-I

The Environment for Analysis of Geo-Located Energy Information (EAGLE-I), which was developed by staff at DOE Headquarters, is a web-based visualization and situational awareness system comprised of numerous applications. Use of EAGLE-I is limited to Federal Government personnel only, and while there are currently over 600 users across the federal community, some EAGLE-I data and applications can only be accessed by DOE personnel. The National Outage Map component of EAGLE-I provides federal users with accurate, timely coverage of electric customer outage information, aggregated and visualized at the county level, sourced directly from utility company websites, and refreshed every 15 minutes. (<https://eagle-i.doe.gov/default.aspx>)

Figure 16 shows a screenshot from EAGLE-I.

Figure 16: Screenshot from EAGLE-I



EARSS

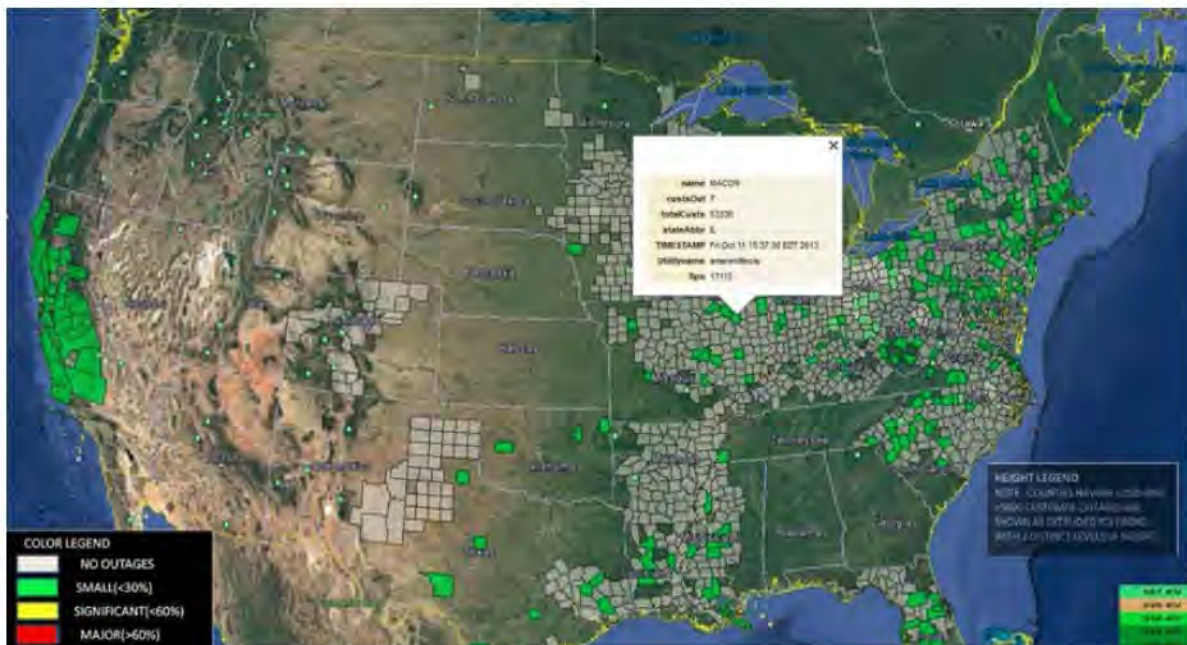
The Energy Assurance and Resiliency Standardized Services (EARSS) system was developed by Oak Ridge National Laboratory to disseminate the analysis of impacts of technological, man-made, and extreme weather events, such as hurricanes, wild fires, and ice storms, on energy hubs and energy delivery infrastructures. The system provides predictive and post-event impact analysis on energy infrastructure nodes and links, as well as population at risk.

The data and analyses are available both in a visualization platform called the EARSS CONNECTOR and/or as inputs into other models or overlays for additional analyses by the user communities through a geoserver platform called the EARSS Geo Server.

(<https://earss.extranet.ornl.gov/geoserver/web/>).

Figure 17 shows a screenshot from EARSS.

Figure 17: Screenshot from EARSS



HHS emPOWER Mapping Tool

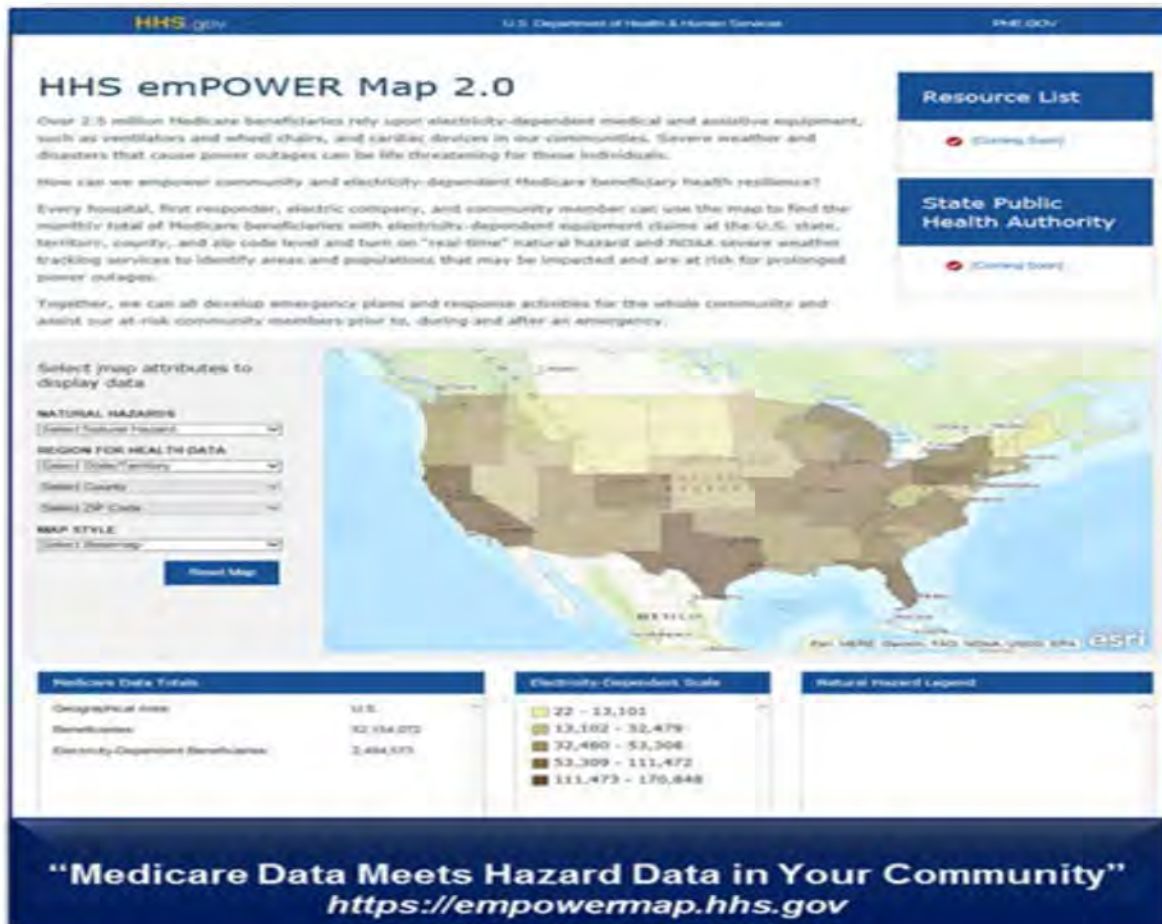
The HHS emPOWER Map Tool, owned by HHS, is an interactive online mapping tool that is helping community health and emergency management officials to better anticipate, plan for, and respond to the needs of at risk individuals that rely on electricity-dependent medical and assistive equipment and devices to live independently in their homes. The map provides a monthly total of Medicare beneficiary claims for electricity-dependent equipment and devices at the national, state, territory, county and zip code levels. The tools also provide near real-time National Oceanic and Atmospheric Administration (NOAA) severe weather and other natural hazard tracking services to help identify impacted areas and estimate the number of electricity-dependent individuals that may rapidly seek assistance from first responders, hospitals and emergency shelters and their equipment and batteries fail.

The integrated data accessible through the HHS emPOWER Map can help community organizations, including hospitals, first responders, and electric company officials, work with health officials to minimize health impacts of prolonged power outages due to storms and other disasters on vulnerable residents.

Emergency planners, using emPOWER, can participate and plan for emergency shelters that may experience greater electricity-dependent Medicare beneficiaries nearby. First responders and hospitals can better anticipate and plan for a surge in assistance calls and care demands. Local officials can also more accurately estimate transportation and evacuation assistance needs and identify areas that may require recharging stations or be prioritize for power restoration. (<https://empowermap.hhs.gov>)

Figure 18 shows a screenshot from emPOWER.

Figure 18: Screenshot from emPOWER



EPFAT

Following disasters that disrupt the commercial power service, generators are often required at critical public facilities such as water treatment plants, hospitals, wastewater treatment plants and shelters. USACE assists FEMA in providing temporary emergency power at critical public facilities identified by state officials. Facility assessment data is required before a generator can be sourced and installed.

The Emergency Power Facility Assessment Tool (EPFAT) is a secure web-based tool used by critical public facility owners/operators or emergency response agencies to input, store, update and/or provide temporary emergency power under Stafford Act Declaration events and for local responders to provide emergency power assessment data under non-Stafford events. Having pre-installation assessment data in advance expedites USACE's abilities to provide temporary power. (<http://epfat.swf.usace.army.mil>)

EPRAM (National Infrastructure Simulation and Analysis Center)

The Evolutionary Prototyping with Risk Analysis and Mitigation (EPRAM) electric restoration analysis model is a National Infrastructure Simulation and Analysis Center (NISAC) tool developed by Los Alamos National Laboratory. It determines the impact of network-level damage on electric power restoration by analyzing work rates and substation priorities, critical path activities, and time to restore. Model characteristics include national-scale data coverage, cellular automata technique, and simulation of work management practices used by electric companies during a variety of natural and manmade events.

EPRAM's cellular automata approach builds on geo-spatial representations of electric substation service areas. Service areas are initially modeled as contiguous polygons at "normal" status. During a damage event, service areas progress from "outage" to "partially restored" to "fully restored." The model incorporates constraints such as priority scheduling of field crews, availability of spares, line switching, generator black-start options, travel time across damaged areas, and the extent of debris. EPRAM provides a variety of outputs such as charts of aggregate event (time to restoration), geo-spatial restoration sequences, tabular lists of critical facility impacts, and work crew assignments.

EPRAM (USACE)

The Emergency Power Readiness Assessment Model (EPRAM) is a modeling tool in the USACE SimSuite web-based series of planning tools. It allows USACE to identify a specific geographical incident impact area and then query critical facilities within that area to help determine potential requirements for temporary emergency power generators. This web site can only be accessed by a user who is operating on an "army.mil" IT network.

(<http://simsuite.usace.army.mil/simsuite/index.html#/portal>)

Figure shows a screenshot from USACE EPRAM.

Figure19: USACE EPRAM Screenshot



HAZUS-MH

Hazards U.S. Multi-Hazard (HAZUS-MH) is a nationally applicable standardized methodology that estimates potential losses from earthquakes, hurricane winds, and floods. FEMA developed HAZUS-MH under contract with the National Institute of Building Sciences.

HAZUS-MH uses state-of-the-art Geographic Information Systems (GIS) software to map and display hazard data and the results of damage and economic loss estimates for buildings and infrastructure. It also allows users to estimate the impacts of earthquakes, hurricane winds, and floods on populations. (<https://www.fema.gov/hazus>)

MoDI

The Model and Data Inventory (MoDI) is an interactive, web-based tool that provides an inventory of the datasets and models used across the federal interagency community to support operational decision making. The MoDI is a product of the ESF Leadership Group (ESFLG) Modeling and Data Working Group (MDWG). The Director of FEMA's Planning and Exercise Division, Response Directorate, chairs the MDWG. The ESFLG selects the members, who include subject matter experts, program managers, and program directors representing each of the federal ESFs.

The ESFLG MoDI contains information about individual models and datasets, including quick summaries and detailed technical information to support both end users and technical specialists. Access and point of contact information are provided for each dataset and model, and each entry is tagged with key information about when the dataset or model is useful during emergency response and to which hazard(s), core capabilities, and support functions it applies. An interactive analysis tool allows users to explore the connections between models and datasets and how information flows between them. (<http://gis.fema.gov/Model-and-Data-Inventory/>)

Figure 19 shows a screenshot from MoDI.

Figure 19: Screenshot from MoDI

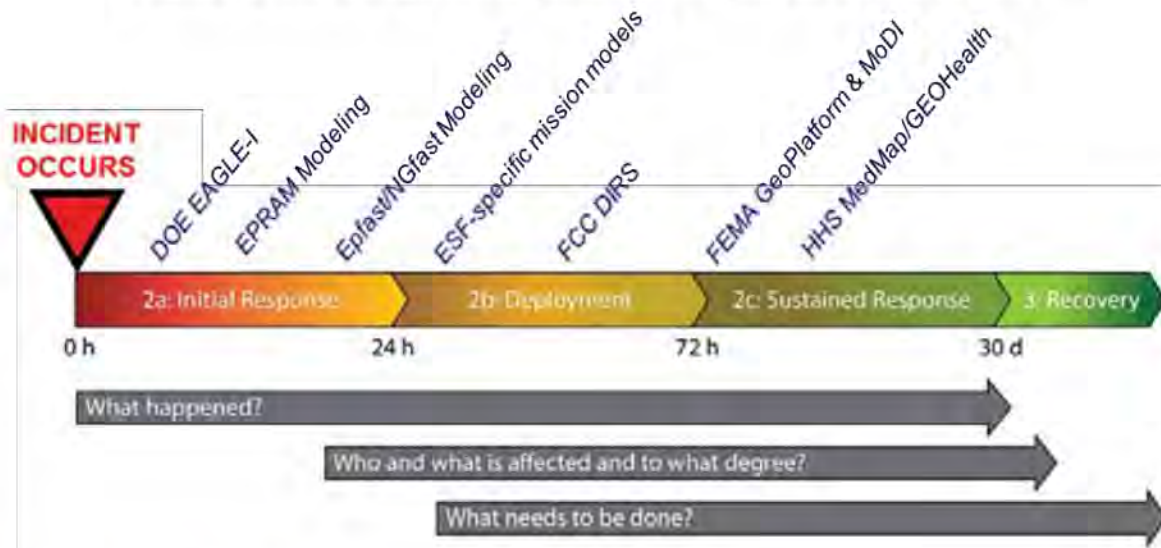
RAW DATA	EVENT CHARACTERIZATION	SITUATIONAL AWARENESS	CONSEQUENCE MODELS	IMPACT ESTIMATES	DECISION SUPPORT TOOLS	MISSION-SPECIFIC REQUIREMENTS
HSIP	HPAC	EAGLE-I	Hazus	NARAC Modeling System	Turbo FRMAC	SimSuite
US Census Data	SLOSH	CPHC Forecasts	Turbo FRMAC	PAGER	HURREVAC	DSARS
NHD Plus	NARAC Modeling System	NHC Forecasts	HPAC	ShakeCast	NUEVAC	HAVBED
Observational Weather Data	ShakeMap	NARAC Modeling System	NARAC Modeling System	DIRS	I-WASTE DST	DRC Locator
RAMS	ICWater	NWS River Forecasts	PAGER	GeoHEALTH	RESRAD	DTS
CAP Imagery	HEC-RAS	Red Cross NSS	EPfast	SimSuite	SHARC (Sandia)	Iron Sights
NWIS	WRF	ShakeCast	HotSpot	DSARS	SimSuite	LSCMS
River Gauge Observational Data	ADCIRC	AHPS	NGFast	ERMA	BT-GAM	NMETS
	HYSPLIT	DisasterAWARE	RESRAD	FEMA GeoPlatform	CoBRA	
Twitter Data	FLEXPART	Local NWS Forecasts	SHARC (Sandia)	USGS Flood Inundation Mapper	EPRAM	
CoCoRaHS	HEC-HMS		SimSuite		REMM	
HDDS	HotSpot	NWIS	BT-GAM	CFLA	RtePM	
LANCE	ORIGEN-ARP	RadResponder	EMPREP	PDA Data	USACE Debris Estimating Model	
NLCD	RESRAD	GeoHEALTH	HEC-FIA	SIMON	WEST	
Scribe	SHARC (Sandia)	JTWC Forecasts	N-ABLE		CWMS	
USGS Storm Surge Sensors	SimSuite	OnTheMap	REAcct		DCC Calculators	
	COMBIE	OnTheMap for	RVA Tool		RCA READY	

Table 12 provides an at-a-glance summary of the modeling tools and their owners, availability, and method of access.

Table 12: Modeling Tools to Assist in a Power Outage Incident

Modeling Tool	Proprietary Owner/Source	Availability	Access
EAGLE-I	DOE/Sourced directly from utility companies as well as DOE, federal and private data sources	Federal employees only	Controlled by DOE: https://eagle-i.doe.gov/default.aspx
EARSS	Oakridge National Laboratory	Access from Oakridge National Laboratory required	Controlled by Oakridge National Laboratory: https://earss.extranet.ornl.gov/geoserver/web/
emPOWER	HHS	Publicly available for emergency planners	Controlled by HHS: http://empowermap.phe.gov
EPFAT	USACE	Critical Public Facility Owners/Operators	Controlled by USACE: http://epfat.swf.usace.army.mil/
EPRAM	NISAC	Federal employees only	Controlled by Los Alamos National Laboratory
EPRAM	USACE	Limited to army.mil users	Controlled by USACE: http://simsuite.usace.army.mil/simsuite/index.html#/portal
HAZUS	FEMA	Publicly available through web portal	Controlled by FEMA: https://www.fema.gov/hazus
MoDI	FEMA	Analysis available for response phases (recovery underway)	Controlled by FEMA: http://gis.fema.gov/Model-and-Data-Inventory/

Figure 20 shows a mapping of optimal tool usage against the incident response phases.

Figure 20: Power Outage Modeling Tools in the Response and Recovery Phases

Situational Awareness Reporting

EAD

The Energy Assurance Daily (EAD), produced by DOE, provides a summary of public information concerning current energy issues. Published Monday through Friday to inform stakeholders of developments affecting energy systems, flows, and markets, it provides highlights of energy issues rather than comprehensive coverage.

The EAD addresses:

- Major energy developments
- Electricity, petroleum, and natural gas industries
- Other relevant news
- Energy prices

The EAD is available to the public online (<http://www.oe.netl.doe.gov/ead.aspx>) and is posted on HSIN.

EARSS

In addition to its modeling, EARSS also provides situational awareness of various data sets required to respond to a long-term power outage.

- Monitoring capability:
 - Situational awareness of distribution outages
 - Real-time weather overlays
 - Real-time detection and notification of naturally occurring extreme events

- Energy infrastructure situational awareness:
 - Coal delivery and rail lines
 - Refinery and oil wells
 - Natural gas pipelines
 - Transportation and evacuation routes
 - Population impacts

FCC DIRS

The Federal Communications Commission (FCC) Disaster Information Reposting System (DIRS) is a voluntary, web-based system that communications companies, including wireless, wireline, broadcast, and cable providers, can use to report communications infrastructure status and situational awareness information during times of crisis. In the event of a major disaster, the FCC and DHS NPPD National Coordination Center for Communications (NCC) need accurate information regarding the status of communications services in the disaster area, particularly during restoration efforts. (<http://transition.fcc.gov/pshs/services/cip/dirs/dirs.html>)

When jointly activated by DHS and FCC, DIRS collects information concerning the following:

(<https://transition.fcc.gov/pshs/services/cip/dirs/dirs.html>)

Form OE-417

Through the Electric Emergency Incident and Disturbance Report (Form OE-417), information is collected on major electric system incidents and emergencies to inform DOE. Electric companies that operate as Control Area Operators and/or Reliability Authorities, as well as other electric companies as appropriate, are required to file the form whenever an electrical incident or disturbance is sufficiently large enough to cross the reporting thresholds. Reporting coverage for the Form OE-417 includes all 50 states, the District of Columbia, Puerto Rico, the United States Virgin Islands, and the United States Trust Territories. DOE uses the information to fulfill its overall national security and other energy emergency management responsibilities as well as for analytical purposes. While Form OE-417 Annual Summaries are available on the DOE website, the actual reports are protected, to the extent possible, consistent with federal law.

GeoHEALTH

GeoHEALTH (formerly MedMap) is a secure, GIS-based, electronic, interactive mapping application. This application incorporates information from numerous sources both internal and external to HHS. It includes other federal and public agencies such as NOAA and the United States Geological Survey, as well as other NGOs, into a single visual environment for enhanced situational awareness, assessment, and management of resources for planning and response to natural or manmade incidents.

This system supports functions such as policy analysis, planning, course of action comparison, incident management, and training. It supports the needs of decision makers at various levels within HHS and other federal agencies to provide enhanced situational awareness at a level of

granularity needed for all responders, including regional emergency coordinators and teams in the field. It also displays and provides details on medical care sites, resources, and mobilization points and provides analytical tools for planning and preparedness efforts. During a large event such as an improvised explosive device or hurricane, there is the need to immediately determine medical care sites, resources and mobilization points and modify information as it becomes available and changes. (<http://geohealth.hhs.gov>)

Outage Central

Outage Central is a portal that provides emergency response personnel with comprehensive outage links, severe weather alerts, and outage news. Operated by an independent company, it is accessible to the public, responders, and utilities. Information on outages is organized by states and regional mutual aid groups.

U.S. Electric System Operating Data Tool

Through Form EIA-930, the DOE Energy Information Administration (EIA) collects hourly forecast and actual demand data from all 66 U.S. balancing authorities operating in the lower 48 states. This data is collected 24/7/365 and made publicly available within an hour and a half of the end of the operating hour on EIA's website through the Electric System Operating Data Tool webpages.

Significant disruptions of balancing authority demand due to weather events or facility outages appear promptly in the tool. It allows users to track system recovery hourly by comparing current actual system demand with demand forecasts and historical actual demand for previous comparable periods.

Table 13 provides an at-a-glance summary of the situational awareness tools and their owners, availability, and method of access.

Table 13: Situational Awareness Tools to Assist in a Power Outage Incident

Situational Awareness Tool	Proprietary Owner/Source	Availability	Access
DIRS	FCC	Voluntary Access	http://transition.fcc.gov/pshs/services/cip/dirs/dirs.html
EAD	DOE	Available to the public, published M-F	http://www.oe.netl.doe.gov/ead.aspx
EARSS	Oakridge National Laboratory	Access from Oakridge National Laboratory required	Controlled by Oakridge National Laboratory: https://earss.extranet.ornl.gov/geoserver/web/
Form OE-417	DOE	Schedule 1 information may be publicly released, Schedule 2 information is protected in accordance with applicable laws	The form is available on DOE public website by date and time group; however, report information is controlled by DOE. Annual report summaries are available on DOE's public Web site.
GeoHEALTH	HHS	Some available to the public, restricted access for others	http://geohealth.hhs.gov
Outage Central	Macrosoft	Available to the public	http://www.outagecentral.com/
U.S. Electric System	U.S. Department of Energy/Energy	U.S. Electric System Operating Data Tool/Form EIA-930	http://www.eia.gov/beta/realtime_grid

Situational Awareness Tool	Proprietary Owner/Source	Availability	Access
Operating Data Tool	Information Administration (EIA)		

Appendix 6: Authorities and References

The tables in this appendix summarize specific authorities relevant to a long-term power outage. The NRF, NDRF, and the Response and Recovery FIOPs provide a list of overarching incident management authorities.

Nothing in this annex alters or impedes the ability of federal agencies to carry out their respective authorities and associated responsibilities under law. This annex does not create new authorities nor change existing ones.

Table 14: Applicable Statutes

Title	Date	Applicability to a Power Outage
Clean Air Act (42 U.S.C., Chapter 85)	1970	Section 211 (c)(4)(C) provision allows EPA (upon request from a governor) to issue waivers to motor vehicle fuel requirements to address short-term fuel supply shortages. Such waivers may also benefit first responders and emergency response equipment.
Clean Water Act (33 U.S.C.)	1972	Employs a variety of regulatory and non-regulatory tools to reduce direct pollutant discharges into the Nation's waterways, finance wastewater treatment facilities, and manage polluted runoff. It also gives the EPA authority to implement pollution control programs and to set wastewater standards for industry and limitations on contaminants in surface waters. Its broader goal is to help restore and maintain the chemical, biological, and physical integrity of the Nation's waters.
Critical Infrastructure Information Act of 2002 (P.L. 107-296)	2002	Establishes the Protected Critical Infrastructure Information (PCII) Program. It creates a framework that enables members of the private sector to voluntarily submit sensitive information regarding the Nation's CI to DHS with assurance that the government will not expose sensitive or proprietary data. It also establishes the PCII Program Office within DHS NPPD IP.
Cybersecurity Information Sharing Act of 2015 (P.L. 114-113)	2015	Enhances the ability of federal and non-federal entities to share information about cybersecurity threats.
Defense Production Act (DPA) (50 U.S.C.)	1950	Authority to require acceptance and priority performance of contracts and orders to promote national defense, which includes emergency preparedness activities conducted pursuant to Title VI of the Stafford Act and CI protection and restoration, or to maximize domestic energy supplies. The Federal Priorities and Allocations System administers the placement of DPA priority ratings in contracts involving industrial, agricultural, health, energy, and transportation resources and services. The President delegated authority to require acceptance and priority performance of contracts or orders for these categories of resources and services to DOC, USDA, HHS, DOE, and DOT, respectively. Through the placement of priority ratings in contracts, private sector contractors, subcontractors, vendors, and suppliers are required to give preferential treatment for contracts and orders. This authority can ensure timely delivery of materials and services from private businesses to restore power disruptions. Priority ratings can be placed on either government (local, state, federal) or private sector contracts. Additionally, the installation of government-owned equipment authority may expedite and prioritize restoration of both public and private power infrastructure disrupted by either natural or human-caused hazards. Voluntary agreements under DPA may facilitate cooperation among business competitors to protect or restore power systems in connection with natural disasters or acts of terrorism. Participants in a voluntary agreement are granted relief from antitrust laws.

Title	Date	Applicability to a Power Outage
DOE Organization Act (P.L. 95-91)	1977	Established DOE. DOE has the authority to obtain current information regarding emergencies in the electric supply systems in the United States as provided by other statutes such as the Federal Energy Administration Act of 1974. DOE has established mandatory reporting requirements for electric power system incidents or possible incidents to meet DOE's national security requirements and other responsibilities.
Emergency Reconstruction of Interstate Natural Gas Facilities Under the Natural Gas Act (18 CFR, Parts 153, 157, and 375)	2003	FERC regulations enable interstate natural gas pipeline companies, under emergency conditions, to replace mainline facilities using—if necessary—a route other than the existing right-of-way, and to waive the 45-day prior notice requirement and cost constraints.
Energy Policy and Conservation Act (EPCA) (P.L. 94-133)	1975	<p>EPCA's goals are to increase energy production and supply, reduce energy demand, provide energy efficiency, and give the Executive Branch additional powers to respond to disruptions in energy supply.</p> <ul style="list-style-type: none"> • Sections 151–191 authorize DOE to establish and operate the SPR, including the Northeast Gasoline Supply Reserve. • Section 161(h) empowers the President to draw down the SPR in circumstances other than a "severe energy supply interruption" or a need to meet United States obligations under international energy program. • Pursuant to section 181, the Secretary establishes and maintains the Northeast Home Heating Oil Reserve.
Energy Policy Act of 2005 (P.L. 109-58)	2005	Title XII, Electricity, Subtitle A: Reliability Standards, Section 1211: Electric Reliability Standards; Electricity Modernization Act of 2005 provides for federal jurisdiction over certain activities that are required to support reliability of the United States BPS. Title XII authorizes FERC to certify a national ERO to enforce mandatory reliability standards for the BPS. FERC oversee the ERO and approves all ERO standards. The ERO can impose penalties on a user, owner, or operator of the BPS for violations of any FERC-approved reliability standard, but such penalties are subject to FERC review and potential change.
Fixing America's Surface Transportation (FAST) Act (P.L. 114-94)	2015	<ul style="list-style-type: none"> • Amends Part II of the Federal Power Act by adding a new section 215(A) which authorizes the Secretary of Energy to order emergency measures to protect or restore the reliability of critical electric infrastructure or of defense critical electric infrastructure upon a presidential finding of a Grid Security Emergency. • Requires DOE, FERC, and other appropriate federal agencies, to the extent practicable and consistent with their obligations, to protect classified and critical electric infrastructure information and share timely actionable information regarding grid security with appropriate key personnel of owners, operators, and users of the critical electric infrastructure.
Federal Power Act (16 U.S.C, Chapter 12)	1920	<ul style="list-style-type: none"> • Created the Federal Power Commission as the licensing authority for hydroelectric plants; its authority was subsequently transferred to FERC upon its creation. • The Secretary of Energy, under Section 202(c), has authority in time of war or other emergency to order temporary interconnections of facilities and generation, delivery, interchange, or transmission of electric energy that the Secretary deems necessary to meet an emergency. • Establishes the Critical Electric Infrastructure Information (CEII) program. It authorizes DOE and FERC to designate certain sensitive information provided to the Federal Government as CEII and protect the information from disclosure under the Freedom of Information Act.

Title	Date	Applicability to a Power Outage
Foreign Assistance Act (P.L. 87-195)	1961	Reorganizes the structure of United States foreign assistance programs, separated military from non-military aid, and creates a new agency within DOS, the United States Agency for International Development (USAID) to coordinate the United States Government's response to disasters overseas.
Natural Gas Act (15 U.S.C., Chapter 15b)	1938	<ul style="list-style-type: none"> • Gives the President authority to declare a natural gas supply emergency. • Allows DOE to authorize imports and exports of natural gas. Provides FERC the authority to approve the siting of and abandonment of interstate natural gas facilities, including pipelines, storage, and liquefied natural gas facilities. • Delegates authority over the construction, operation, and siting of particular facilities to the FERC. • Provides DOE with the authority to order any interstate pipeline or local distribution company served by an interstate pipeline to allocate natural gas to help meet the needs of high-priority consumers during a natural gas emergency.
Power Plant and Industrial Fuel Use Act (FUA) (42 U.S.C.)	1978	<ul style="list-style-type: none"> • Under section 404(a), gives the President authority to allocate coal (and require the transportation of coal) for use by any power plant or major fuel-burning installation during a declared severe energy supply interruption as defined by section 3(8) of EPCA, 42 U.S.C. § 6202(8). • Section 404(b) authorizes the President to prohibit the use by any power plant or major fuel-burning installation of petroleum or natural gas, or both, as a primary energy source.
Safe Drinking Water Act (42 U.S.C., Section 300f et seq.)	1974, amended 1986 and 1996	Protects the quality of public drinking water supplies in the United States. Under the SDWA, EPA sets standards and treatment requirements for public water supplies. Regulations are in place for constituents that may pose health risks and that are likely to be present in public water supplies (microorganisms, disinfectants, disinfection byproducts, inorganic chemicals, organic chemicals and radionuclides.) After a power outage, water pressure fluctuation in the distribution system and/or loss of power at the treatment plant may increase contaminant intrusion or risk of compromised water quality. SDWA requirements require compliance monitoring to assure water quality meets safe drinking water standards.

Table 15: Applicable FERC Orders

Title	Date	Applicability to a Power Outage
Certifying NERC as the ERO (Docket No. RR06-1-000)	July 20, 2006	<p>Pursuant to Energy Policy Act of 2005, FERC conditionally certified the NERC as the Nation's ERO.</p> <ul style="list-style-type: none"> • NERC must make specified changes and file them with FERC to continue as the ERO. • Develops and enforces mandatory electric reliability standards under FERC's oversight. The standards will apply to all users, owners, and operators of the BPS.
Order on Application for Blanket Authorization for Transfers of Jurisdictional Facilities and Petition for Declaratory Order (Docket Nos. EC06-140-000, EL06-86-000)	September 22, 2006	The FERC Commission approved EEI to expand membership of the Spare Transformer Sharing Agreement that provides a blanket authorization for any jurisdictional public utility party to the Agreement to engage in future transfers of transformers pursuant to the Agreement, including transfers of transformers by public utilities to their affiliates.
Mandatory Reliability Standards for Critical Infrastructure Protection (CIP) (Docket No. RM06-22-000)	January 18, 2008	Pursuant to Section 215 of the Federal Power Act, FERC approved eight CIP Reliability Standards submitted by NERC. The standards require certain users, owners, and operators of the BPS to comply with specific requirements to safeguard critical cyber assets.

Title	Date	Applicability to a Power Outage
Approving Revised Reliability Standards for CIP and Requiring Compliance Filing (Docket No. RD09-7-000)	September 30, 2009	The FERC Commission approved the CIP Reliability Standards in Order No. 706 and directed NERC to develop modifications to the CIP Reliability Standards to address specific concerns. The order in Docket No. RD09-7-000 approves version 2 of the CIP standards by: (1) removing the "reasonable business judgment" language from each of the Standards; (2) removing the "acceptance of risk" exceptions from each of the Standards; (3) adding specific conditions that a Responsible Entity must satisfy to invoke the technical feasibility exception; and (4) adding review and oversight regarding creating a risk-based assessment methodology for critical cyber asset identification in CIP-002-1.
Order No. 761, Final Rule Approving Version 4 Critical Infrastructure Protection Reliability Standards (Docket No. RM11-11-000)	April 19, 2012	FERC approved eight modified CIP Reliability Standards, CIP-002-4 through CIP-009-4, developed and submitted by NERC. <ul style="list-style-type: none"> The CIP Reliability Standards provide a cybersecurity framework to identify and protect "Critical Cyber Assets" to support the reliable operation of the BPS. Reliability Standard CIP-002-4 requires the identification and documentation of Critical Cyber Assets associated with "Critical Assets" that support the reliable operation of the BPS and introduces "bright line" criteria for the identification of Critical Assets.
Order No. 791, Final Rule Approving Version 5 Critical Infrastructure Protection Reliability Standards (Docket No. RM13-5-000)	November 22, 2013	FERC approved the Version 5 CIP Reliability Standards, CIP-002-5 through CIP-011-1, submitted by NERC. <ul style="list-style-type: none"> The CIP version 5 Standards adopt new cyber security controls and extend the scope of the systems that are protected by the CIP Reliability Standards.
Order No. 802, Final Rule Approving Physical Security Reliability Standard (Docket No. RM14-15-000)	November 20, 2014	FERC directed NERC to submit one or more Reliability Standards that require certain registered entities to take steps, or demonstrate that they have taken steps, to address physical security risks and vulnerabilities related to the reliable operation of the BPS. These steps require owners or operators of the BPS, as appropriate, to identify facilities on the BPS that are critical to its reliable operation. The owners or operators of those critical facilities should develop, validate, and implement plans to protect against physical attacks that may compromise the operability or recovery of such facilities.
Order No. 822, Final Rule Approving Revised Critical Infrastructure Protection Reliability Standards (Docket No. RM15-14-000)	January 21, 2016	FERC approved seven CIP Reliability Standards: CIP-003-6 (Security Management Controls), CIP-004-6 (Personnel and Training), CIP-006-6 (Physical Security of BES Cyber Systems), CIP-007-6 (Systems Security Management), CIP-009-6 (Recovery Plans for BES Cyber Systems), CIP-010-2 (Configuration Change Management and Vulnerability Assessments), and CIP-011-2 (Information Protection).
Order No. 829, Order Directing NERC to Develop Revised Critical Infrastructure Protection Reliability Standard that Addresses Supply Chain Risk Management (Docket No. RM15-14-002)	July 21, 2016	FERC directed NERC to develop a new or modified reliability standard to address supply chain risk management for industrial control system hardware, software, and computing and networking services associated with bulk electric system operations. The new or modified reliability standard is intended to mitigate the risk of a cybersecurity incident affecting the reliable operation of the BPS.

Table 16: Executive Orders and Presidential Directives

Title	Date	Description
Executive Order (E.O.) 12038, Relating to Certain Functions Transferred to the Secretary of Energy by the DOE Organization Act	February 3, 1978	Authorizes the Secretary of Energy to issue Presidential permits for the construction, operation, maintenance, and connection of electric transmission facilities at U.S. international borders, if it determines that the issuance of such a permit is in the public interest.
E.O. 13636, Improving Critical Infrastructure Cybersecurity	February 12, 2013	Directs the Executive Branch to— <ul style="list-style-type: none"> • Develop a technology-neutral voluntary cybersecurity framework; • Promote and incentivize the adoption of cybersecurity practices; • Increase the volume, timeliness, and quality of cyber threat information sharing; • Incorporate strong privacy and civil liberties protections into every initiative to secure our CI; and • Explore the use of existing regulation to promote cyber security.
PPD-21, Critical Infrastructure Security and Resilience	February 12, 2013	Addresses the roles and responsibilities across the Federal Government and establishes a more effective partnership with CI owners and operators and local, state, tribal, territorial, and insular area entities to enhance CI's security and resilience. Replaces HSPD-7, Critical Infrastructure Identification, Prioritization, and Protection.
PPD-41, United States Cyber Incident Coordination	July 26, 2016	Sets forth principles governing the Federal Government's response to any cyber incident, whether involving government or private sector entities. For significant cyber incidents, this PPD also establishes lead federal agencies and an architecture for coordinating the broader Federal Government response.

Table 17: Waivers and Other Regulatory Relief

Core Capability(s)	Lead Agency and Description
Economic Recovery	FERC: <ul style="list-style-type: none"> • During an emergency, FERC may consider waiving tariff provisions that may interfere with restoration efforts.
Environmental Response Health and Safety	EPA: <ul style="list-style-type: none"> • The Clean Air Act, Section 211 (c)(4)(C) allows EPA (upon request from a governor), to issue waivers to motor vehicle fuel requirements to address short-term fuel supply shortages. Such waivers may also benefit first responders and emergency response equipment. • In an extraordinary situation during an emergency, EPA could potentially issue a No Action Assurance that allows fuel loading and unloading without the use of vapor recovery or vapor combustion devices at bulk gasoline and marine loading terminals and associated truck racks, as otherwise required under the Clean Air Act.
Planning/ Operational Coordination	FEMA: <ul style="list-style-type: none"> • During an emergency, waivers can be offered on reporting requirements, enabling responders to focus more fully on the restoration efforts.

Core Capability(s)	Lead Agency and Description
Critical Transportation	<p>DOT:</p> <ul style="list-style-type: none"> The Federal Railroad Administration (FRA) Emergency Relief Docket (ERD) is a special provision regulation that provides expedited review and approval of waiver requests from railroads related to a specific emergency. The Administrator of the FRA can designate specific events, such as emergencies to trigger the opening of the ERD. Exemptions ("waivers") from many of the Federal Motor Carrier Safety Regulations (FMCSRs) occur "automatically" in accordance with 49 CFR 390.23 when the President, a governor, or a local government official issues a declaration of emergency (as defined in 49 CFR 390.5). Presidential and state declarations are effective for up to 30 days, and local declarations are effective for up to five days. Only a Federal Motor Carrier Safety Administration (FMCSA) Field Administrator or Regional Field Administrator has authority to extend the waivers beyond the initial 30 days and to place additional restrictions on the waivers. The waivers apply to any commercial motor vehicle responding from anywhere in the United States to provide direct relief to the emergency. The Hours of Service limitations do not apply to a driver of a utility service vehicle as defined in 49 CFR § 395.2. The Federal Government does not issue permits for oversize or overweight vehicles. State DOTs may grant these permits. To obtain state permits, travelers need to contact the state(s) in which they need to travel. For more information see the following link: http://ops.fhwa.dot.gov/freight/sw/permit_report/index.htm. The Federal Government does not issue toll waivers. Toll waivers may be issued on a case-by-case basis by the state, local authority, or private entity that owns the specific piece of tolled infrastructure.
Mass Care	<p>FEMA:</p> <ul style="list-style-type: none"> Issues waivers of the GSA lodging rate used to determine allowable room night charges for survivors in the TSA program.

Table 18: Source Documents and References (Federal)

Department or Agency	Document or Reference	Year
DOE	<i>Energy: Critical Infrastructure and Key Resources Sector-Specific Plan as Input to the National Infrastructure Protection Plan.</i> http://energy.gov/sites/prod/files/oeprod/DocumentsandMedia/Energy_SSP_Public.pdf	2007
DOE	<i>Energy Infrastructure Risk Framework, United States DOE Office of Electricity Delivery and Energy Reliability, Infrastructure Security and Energy Restoration Division, Identifying Dependencies and Interdependencies, 2011.</i>	2011
DOE	<i>NERC: Severe Impact Resilience: Considerations and Recommendations.</i> http://www.nerc.com/docs/oc/sirtf/SIRTF_Final_May_9_2012-Board_Accepted.pdf	2012
DHS	<i>National Infrastructure Protection Plan.</i> https://www.dhs.gov/publication/nipp-2013-partnering-critical-infrastructure-security-and-resilience	2013
DOE & DHS	<i>2015 Energy Sector Specific Plan.</i> https://www.dhs.gov/sites/default/files/publications/nipp-ssp-energy-2015-508.pdf	2015
FEMA	<i>FEMA: ESF #12 Data Requirements for Emergency Management</i>	2015
DOE	<i>United States Electricity Industry Primer, Office of Electricity Delivery and Energy Reliability, United States DOE, DOE/OE-0017, August 2016 Revised Edition.</i>	2015
FEMA	<i>International Assistance Systems Concept of Operations</i> http://www.fema.gov/media-library-data/1444411200092-5b09869d53801ceb5640c00b2f337e64/2015_IAS_CONOPS_Public_Version_Accessible.pdf	2016

Table 19: Source Documents and References (Industry)

Industry Stakeholders (Private and Public Sector)		Year
EEI: "How the National Response Event Framework Is Different From the Current Mutual Assistance Program." http://www.eei.org		2014
EEI: "Responding with the Strength of an Industry: Understanding The Investor-Owned Electric Utility Industry's National Response Event Plan." http://www.eei.org		2014
American Public Power Association: "Public Power Mutual Aid Playbook." http://www.publicpower.org		2014
ESCC Playbook: "A Crisis Management Framework for the Electricity Subsector Coordinating Council (ESCC)."		2015
EEI: "Understanding the Electric Power Industry's Response and Restoration Process." http://www.eei.org/issuesandpolicy/electricreliability/mutualassistance/Documents/MA_101FINAL.pdf		2016

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Appendix 7: Glossary

Access and functional needs. Individual circumstances requiring assistance, accommodation, or modification for mobility, communication, transportation, safety, health maintenance, etc., due to any temporary or permanent situation that limits an individual's ability to take action during an incident.

American Public Power Association. The national service organization representing the interests of not-for-profit, state, municipal, and other locally owned electric companies in the United States. More than 2,000 public power utilities, doing business in every state but Hawaii, account for over 15 percent of all electric energy (kilowatt-hours) sales to ultimate consumers in the Nation and collectively serve over 48 million people. APPA utility members' primary goal is providing customers in the communities they serve with reliable electric power and energy at the lowest reasonable cost, consistent with good environmental stewardship.

American Public Power Association Mutual Aid Working Group. A mutual aid network for the Nation's public power utilities. Each of the ten regions has appointed a Public Power Network Coordinator who works with the public power utilities in the applicable regions on coordinating any federal/state support needed to APPA.

Assessment. The process of acquiring, collecting, processing, examining, analyzing, evaluating, monitoring, and interpreting the data, information, evidence, objects, measurements, images, and sound, among others, whether tangible or intangible, to provide a basis for decision making.

Black start resources. Generating units that have the ability to be started without support from the rest of the bulk power system, or are designed to remain energized without connection to the remainder of the bulk power system, and can be used to restart other generating units as part of the process of re-energizing the system.

Bulk Electric System. The electrical generation resources, transmission lines, interconnections with neighboring systems, and associated equipment, generally operated at voltages of 100 kilovolts or higher.

Bulk Power System. A large interconnected electrical system made up of generation and transmission facilities and their control systems. A BPS does not include facilities used in the local distribution of electric energy. If a bulk power system is disrupted, the effects are felt in more than one location. In the United States, the NERC oversees the BPS.

Collaborate. The process of working together to achieve shared goals.

Core Capabilities. Distinct critical elements necessary to achieve the *National Preparedness Goal*.

Critical Infrastructure. Systems and assets, whether physical or virtual, so vital to the United States that the incapacity or destruction of such systems and assets would have a debilitating impact on security, national economic security, national public health or medical, or safety, or any combination of those matters. (Source: *NIPP*)

Cybersecurity. The prevention of damage to, unauthorized use of, or exploitation of, and, if needed, the restoration of electronic information and communications systems and the information contained therein to ensure confidentiality, integrity, and availability. Includes protection and restoration, when needed, of information networks and wireline, wireless, satellite, public safety answering points, and 9-1-1 communications systems and control systems. (Source: *NIPP*)

Defense Production Act. The Defense Production Act ³¹ (DPA) is the primary source of presidential authority to expedite and expand the supply of critical resources from the U.S. industrial base to support the national defense and homeland security. In addition to military, energy, and space activities, the DPA definition of “national defense” includes emergency preparedness activities conducted pursuant to Title VI of the Stafford Act, protection and restoration of critical infrastructure, and efforts so prevent, reduce vulnerability to, minimize damage from, and recover from acts of terrorism within the United States. The President’s DPA authorities are delegated to the head of various federal departments in Executive Order 13603. ³² DPA, however does not necessarily increase the production of critical resources if those production lines are already operating at a maximum capacity and the demand for such resources are high resulting in significant national shortages.

Electricity Information Sharing and Analysis Center. The E-ISAC gathers and analyzes security information, coordinates incident management, and communicates mitigation strategies with stakeholders within the electricity subsector, across interdependent sectors, and with government partners. The E-ISAC, in collaboration with DOE and the ESCC, serves as the primary security communications channel for the electricity subsector and enhances the subsector’s ability to prepare for and respond to cyber and physical threats, vulnerabilities, and incidents. The NERC operates the E-ISAC on behalf of the electricity subsector.

Electric grid. Layout of the electrical transmission system; a network of transmission lines and the associated substations and other equipment required to move power.

Emergency communications. The means and methods for exchanging communications and information necessary for successful incident management. (Source: *National Emergency Communications Plan*)

Emergency Management Assistance Compact. A congressionally ratified mutual aid compact that legally establishes a national system to facilitate resources across state lines during an emergency or disaster.

Emergency response providers. The Homeland Security Act of 2002 defines emergency response providers as local, state, and federal governmental and nongovernmental emergency public safety, fire, law enforcement, emergency response, emergency medical (including hospital emergency facilities), and related personnel, agencies, and authorities.

Emergency Support Functions. Used by the Federal Government and many state governments as the primary mechanism at the operational level to organize and provide assistance, ESFs align categories of resources and provide strategic objectives for their use. ESFs utilize standardized

³¹ Defense Production Act of 1950, as amended (50 U.S.C. § 4501 et seq.).

³² Executive Order 13603 of March 16, 2012: National Defense Resources Preparedness.

resource management concepts such as typing, inventorying, and tracking to facilitate the dispatch, deployment, and recovery of resources before, during, and after an incident.

Energy sector. The energy sector supplies fuels to the transportation industry, electricity to households and businesses, and other sources of energy that are integral to growth and production across the Nation. It is divided into three interrelated segments or subsectors—electricity, oil, and natural gas—to include the production, refining, storage, and distribution of oil, gas, and electric power, except for hydroelectric and commercial nuclear power facilities and pipelines. (Source: *Energy Sector Specific Plan*)

Energy Subsector Coordinating Council. The ESCC is the principal liaison between leadership in the Federal Government and in the electric power sector, with the mission of coordinating efforts to prepare for national-level incidents or threats to CI. The ESCC includes utility CEOs and trade association leaders representing all segments of the industry.

Federal Energy Regulatory Commission: An independent agency that regulates the interstate transmission of electricity, natural gas, and oil. FERC regulates the wholesale sale of electric energy in interstate commerce. FERC also reviews proposals to build liquefied natural gas terminals and interstate natural gas pipelines as well as licensing hydropower projects.

Federal Power Program. A government program that includes the TVA, BPA, SEPA, SWPA, and WAPA. These wholesale-only entities were created to provide their electric company and industrial customers with access to federally owned and operated hydroelectric dams for distribution to end users. TVA is an independent, government-owned corporation that provides electricity for business customers and local power distributors in parts of seven southeastern states and owns both generation and transmission facilities. BPA, SEPA, SWPA, and WAPA are Power Marketing Administrations or PMAs, which are federal agencies housed within the DOE (see *Power Marketing Administration*).

First responders. (also see *Emergency response providers*). The Implementing the 9/11 Commission Recommendations Act of 2007 states that the term “first responder” shall have the same meaning as the term “emergency response provider,” which is defined in the Homeland Security Act of 2002.

Generator. Machine that converts one form of energy into another, especially mechanical energy into electrical energy.

Government Coordinating Council. The government counterpart to the SCC for each sector, established to enable interagency coordination. The GCC comprises representatives across various levels of government (local, state, tribal, territorial, insular area, and federal) as appropriate to the security and operational landscape of each individual sector. (Source: *2013 NIPP*)

Independent power producers. Sometimes called non-utility generators, these are privately held businesses that own and operate their own generation assets and sell power to other utilities or directly to end users.

Information Sharing and Analysis Centers. Operational entities formed by CI owners and operators to gather, analyze, appropriately sanitize, and disseminate intelligence and information

related to CI. ISACs provide 24/7 threat warning and incident reporting capabilities and have the ability to reach and share information within their sectors, between sectors, and among government and private sector stakeholders. (Source: *Presidential Decision Directive [PDD]-63*)

Interdependency. Mutually reliant relationship between entities (objects, individuals, or groups); the degree of interdependency does not need to be equal in both directions.

Investor-owned utilities. For-profit companies owned by their shareholders. These utilities may have service territories in one or more states. State commissions will grant IOUs the license to operate in specific areas of the state under certain terms and conditions. Their interstate generation, transmission, and power sales are regulated by FERC, and state commissions regulate their distribution system and retail sales.

Jurisdiction. A range or sphere of authority. Public safety agencies have jurisdiction at an incident related to their legal responsibilities and authority. Jurisdictional authority at an incident can be political or geographical (e.g., local, state, tribal, territorial, insular area, and federal boundary lines) or functional (e.g., law enforcement, public health, medical).

Large power transformer. The term LPT is broadly used to describe a power transformer with a maximum nameplate rating of 100 megavolt-amperes or higher. (Source: *Large Power Transformers and the Electric Grid*, DOE, April 2014 Update)

Lifeline function. Per the *NIPP*, a lifeline function is a sector that provides indispensable services to enable the continuous operation of critical business and government functions that would risk human health and safety or national and economic security if compromised or not promptly restored. These sectors provide the most essential services that underlie a regional economy. Lifeline functions include communications, energy, transportation, and water.

Mutual Aid Agreement or Assistance Agreement: Written or oral agreement between and among agencies, organizations, or jurisdictions that provides a mechanism to quickly obtain emergency assistance in the form of personnel, equipment, materials, and other associated services. The primary objective is to facilitate rapid, short-term deployment of emergency support prior to, during, or after an incident.

National Disaster Recovery Framework. Defines how the whole community, including emergency managers, community development professionals, recovery practitioners, government agencies, private sector, NGO leaders, and the public, will collaborate and coordinate to more effectively utilize existing resources to promote resilience and support the recovery of those affected by an incident. (Source: *NDRF*)

National Incident Management System. The National Incident Management System (NIMS) is a comprehensive, national approach to incident management that applies at all jurisdictional levels and across functional disciplines.

National Preparedness Goal. The cornerstone for the implementation of PPD-8, it establishes the capabilities and outcomes for the Nation to accomplish across five mission areas (Prevention, Protection, Mitigation, Response, and Recovery) to be secure and resilient. The Goal establishes distinct core capabilities and corresponding target elements for each mission area.

National Response Coordination Center. When activated, the NRCC is a multiagency coordination center located at FEMA Headquarters. Its staff coordinates the overall federal support for major disasters and emergencies, including catastrophic incidents and emergency management program implementation. FEMA maintains the NRCC as a functional component of the National Operations Center for incident support operations. (Source: NRF)

National Response Event. A classification used by Edison Electric Institute to describe a natural or manmade event that is forecasted to cause or that causes long-term power outages affecting a significant population or several regions across the United States and requires resources from its multiple regional mutual aid groups. [Note: this term is not necessarily used by other components of the electric industry.]

National Response Framework. A guide to how the Nation responds to all types of disasters and emergencies. It describes specific authorities and best practices for managing incidents that range from the serious but purely local to large-scale terrorist attacks or catastrophic natural disasters.

National Rural Electric Cooperative Association. The national service organization for the Nation's 900-plus member owned not-for-profit electric utilities who keep the lights on for 42 million people across 47 states. Electric cooperatives bring power to 75 percent of the United States landmass and 12 percent of the U.S. population.

Network. Per the NIPP, a network is a group of components that share information or interact with each other to perform a function.

Nongovernmental organization. Voluntary, racial, ethnic, faith-based, veteran-based, and not-for-profit organizations that provide sheltering, emergency food supplies, and other essential support services. NGOs are inherently independent and committed to specific interests and values.

North American Electric Reliability Corporation. A not-for-profit international regulatory authority whose mission is to assure the reliability of the BPS in North America. NERC's area of responsibility spans the continental United States, Canada, and the northern portion of Baja California, Mexico. NERC is the electric reliability organization for North America, subject to oversight by the FERC and governmental authorities in Canada.

Outage. Removal of generating capacity from service, either forced or scheduled.

Power grid. Layout of the electrical transmission system; a network of transmission lines and the associated substations and other equipment required to move power.

Power Marketing Administrations. PMAs provide public power and rural electric cooperative customers with cost-based hydroelectric power produced at federal dams operated primarily by USACE and the Bureau of Reclamation.

Private sector entity. Per the NRF, private sector entities include large, medium, and small businesses; commerce, private cultural and educational institutions; and industry, as well as public-private partnerships that have been established specifically for emergency management purposes.

Protective Security Advisors. Security SMEs who engage with local, state, tribal, territorial, and insular area governmental partners and members of the private sector stakeholder community to protect the Nation's CI. During incidents, PSAs provide infrastructure security and resilience expertise at the JFOs, RRCCs, and state and county EOCs to assist with response and recovery efforts.

Public power utilities. Not-for-profit utilities owned and operated by state or local governments or by agencies, authorities, or instrumentalities of such governments. City-owned utilities are also known as municipal utilities (munis). Public power utilities are regulated and governed by locally elected or appointed officials and are directly accountable to the communities they serve. Within the United States, there are more than 2,000 community-owned electric companies, serving more than 48 million people or about 14 percent of the Nation's electricity consumers.

Recovery Support Functions. Coordinating structures for key functional areas of assistance during recovery operations, RSFs support local governments by facilitating problem solving, improving access to resources, and fostering coordination among state and federal agencies, nongovernmental partners, and stakeholders. (Source: NDRF)

Regional Mutual Assistance Groups. Voluntary partnerships of investor-owned electric companies across the country, RMAGs are the mechanisms through which investor-owned electric companies request support for restoring power. These entities facilitate the process of identifying available restoration workers and help utilities coordinate the logistics and personnel involved in restoration efforts.

Regional Response Coordination Center. When activated, RRCCs are multi-agency coordination centers generally staffed by ESFs in anticipation of or immediately following an incident. Operating under the direction of the FEMA Regional Administrator, the staff within an RRCC coordinates federal regional response efforts and maintains connectivity with FEMA Headquarters and with state EOCs and state and major urban area fusion centers.

Resources. Personnel and major items of equipment, supplies, and facilities available or potentially available for assignment to incident operations and for which status is maintained. Resources are described by kind and type and may be used in operational support or supervisory capacities at an incident or at an EOC.

Rural Electric Cooperatives. Also known as co-ops, they are not-for-profit entities owned by their members and tend to serve in rural areas that are not traditionally served by other utilities. They must have democratic governance and operate at cost. Any revenue generated in excess of operating costs must be returned to the members. Members vote for representatives to the co-op's board of directors, which oversees operations.

Sector Coordinating Council. The private sector counterpart to the GCC, these councils are self-organized, self-run, and self-governed organizations that represent a spectrum of key stakeholders within a sector. They serve as principal entry points for the government to collaborate with each sector for developing and coordinating a wide range of CI security and resilience activities and issues. (Source: *NIPP*)

Sector Specific Agency. A federal department or agency designated by PPD-21 with responsibility for providing institutional knowledge and specialized expertise, as well as leading,

facilitating, or supporting the security and resilience programs and associated activities of its designated CI sector in the all-hazards environment. (Source: PPD-21)

Sector Specific Plans. Planning documents that complement and tailor application of the National Plan to the specific characteristics and risk landscape of each CI sector. SSAs develop them in close collaboration with the SCCs and other sector partners. (Source: NIPP)

SpareConnect Program. A program that establishes a confidential, unified platform for the entire electric industry to communicate equipment needs in the event of an emergency or other non-routine failure.

Spare Transformer Equipment Program. An electric industry program that requires each participating electric company to maintain a specific number of transformers and to sell its spare transformers to any other participating utility that suffers a “triggering event” (an act of terrorism that destroys or disables one or more substations and results in the declared state of emergency by the President of the United States).

Substations. Equipment that switches, steps down, or regulates voltage of electricity. Also serves as a control and transfer point on a transmission system.

Transformer. Electrical device that changes the voltage in alternating current circuits.

Whole Community. Per the National Preparedness Goal, the term “whole community” applies to the focus on enabling the participation in national preparedness activities of a wider range of players from the private and nonprofit sectors, including NGOs and the general public, in conjunction with the participation of local, state, tribal, territorial, insular area, and federal governmental partners to foster better coordination and working relationships.

Appendix 8: Acronyms

To promote readability, this annex utilizes acronyms only after the first occurrence of the proper name of a Federal Executive Branch department or agency or of a commonly used term. The exception to this rule applies to acronyms that only appear within tables and figures in the document, where space considerations and readability render the use of acronyms optimal.

APPA	American Public Power Association
ARC	American Red Cross
ASPR	DHS Office of the Assistant Secretary of Preparedness and Response
BES	Bulk Electrical System
BPA	Bonneville Power Administration
BPS	Bulk Power System
CAT	Crisis Action Team
CEII	Critical Electric Infrastructure Information
CFR	Code of Federal Regulations
CI	Critical Infrastructure
CI-CAT	Critical Infrastructure–Crisis Action Team
CIP	Critical Infrastructure Protection
CIR	Critical Information Requirement
Co-ops	Cooperatives
CS&C	Office of Cybersecurity and Communications
CWG	Communications Working Group
DCISE	Defense Inclusive Base Collaborative Information Sharing Environment
DHS	Department of Homeland Security
DHS NPPD IP	Department of Homeland Security National Protection and Programs Directorate Infrastructure Protection
DIB	Defense Industrial Base
DIRS	Disaster Information Reposting System
DLA	Defense Logistics Agency
DOC	Department of Commerce
DOD	Department of Defense
DOE	Department of Energy
DoED	Department of Education
DOI	Department of the Interior

DOJ	Department of Justice
DOL	Department of Labor
DOS	Department of State
DOT	Department of Transportation
DPA	Defense Production Act
DRF	Disaster Relief Fund
E-ISAC	Electricity Information Sharing and Analysis Center
EAD	Energy Assurance Daily
EAGLE-I	Environment for Analysis of Geo-Located Energy Information
EARSS	Energy Awareness and Resiliency Standardized Services
EEAC	Energy Emergency Assurance Coordinators
EEI	Edison Electric Institute
EIA	Energy Information Administration
EIDL	Economic Injury Disaster Loans
EMP	Electromagnetic pulse
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
EPCA	Energy Policy and Conservation Act
EPFAT	Emergency Power Facility Assessment Tool
EPRAM (Los Alamos)	Evolutionary Prototyping with Risk Analysis and Mitigation
EPRAM (USACE)	Emergency Power Readiness Assessment Model
ERD	Emergency Relief Docket
ERO	Electric Reliability Organization
ESCC	Electricity Subsector Coordinating Council
ESF	Emergency Support Function
ESFLG	Emergency Support Function Leadership Group
FAST	Fixing America's Surface Transportation
FBI	Federal Bureau of Investigation
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FIOP	Federal Interagency Operational Plan
FMCSA	Federal Motor Carrier Safety Administration

FRA	Federal Railroad Administration
FRB	Federal Reserve Board
FRCC	Florida Reliability Coordinating Council
FUA	Fuel Use Act
GCC	Government Coordinating Council
GIS	Geographic Information Systems
GSA	General Services Administration
HAZUS	Hazards U.S.
HAZUS-MH	Hazards U.S. Multi-hazards
HHS	Department of Health and Human Services
HSIN	Homeland Security Information Network
HSPD	Homeland Security Presidential Directive
IACP	International Association of Chiefs of Police
IOC	Infrastructure of Concern
IOU	Investor-Owned Utilities
IP	Office of Infrastructure Protection (DHS)
IPAWS	Integrated Public Alert and Warning System
ISAC	Information Sharing Analysis Center
IT	Information Technology
JFO	Joint Field Office
JIC	Joint Information Center
JOC	Joint Operations Center
LPT	Large Power Transformer
MAWG	Mutual Aid Working Group
MDWG	Modeling and Data Working Group
MoDI	Modeling and Data Inventory
MRO	Midwest Reliability Organization
NACCHO	National Association of County and City Health Officials
NARUC	National Association of Regulatory Utility Commissioners
NASEO	National Association of State Energy Officials
NBEOC	National Business Emergency Operations Center
NCC	National Coordination Center
NCCIC	National Cybersecurity and Communications Integration Center

NCTC	National Counterterrorism Center
NDRF	National Disaster Recovery Framework
NEF	National Essential Functions
NERC	North American Electric Reliability Corporation
NGO	Nongovernmental Organization
NICC	National Infrastructure Coordinating Center
NIMS	National Incident Management System
NIPP	National Infrastructure Protection Plan
NISAC	National Infrastructure Simulation and Analysis Center
NIST	National Institute of Standards and Technology
NMART	Edison Electrical Institute's National Mutual Assistance Resource Team
NOAA	National Oceanic and Atmospheric Administration
NPPD	National Protection and Programs Directorate
NPWS	National Public Warning System
NRC	United States Nuclear Regulatory Commission
NRCC	National Response Coordination Center
NRCS	National Response Coordination Staff
NRE	National Response Event
NRECA	National Rural Electric Cooperative Association
NRF	National Response Framework
NSA	National Sheriffs' Association
NTSB	National Transportation Safety Board
NVOAD	National Voluntary Organizations Active in Disaster
OCIA	Office of Cyber and Infrastructure Analysis
ODNI	Office of the Director of National Intelligence
OPM	Office of Personnel Management
PCII	Protected Critical Infrastructure Information
PEP	Primary Entry Point
PICCL	Private Sector Incident Communications Conference Line
PMA	Power Marketing Administration
POD	Point of Distribution
POIA	Power Outage Incident Annex
PPD	Presidential Policy Directive

PSA	Protective Security Advisor
RFI	Request for Information
RMAG	Regional Mutual Assistance Group
RRCC	Regional Response Coordination Center
RSF	Recovery Support Function
SBA	Small Business Administration
SCADA	Supervisory control and data acquisition systems
SCC	Sector Coordinating Council
SDWA	Safe Drinking Water Act
SEC	Securities and Exchange Commission
SEPA	Southeastern Power Administration
SERC	SERC Reliability Corporation
SME	Subject matter expert
SNAP	Supplemental Nutrition Assistance Program
SPR	Strategic Petroleum Reserve
SSA	Sector Specific Agency
STEP	Spare Transformer Equipment Program
SWPA	Southwestern Power Administration
TREAS	Department of the Treasury
TSA	Transportation Security Administration
TVA	Tennessee Valley Authority
UCG	Unified Coordination Group
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USDA	United States Department of Agriculture
USPS	United States Postal Service
WAPA	Western Area Power Administration
WECC	Western Electricity Coordinating Council



FEMA Region II Hurricane Annex for Puerto Rico & US Virgin Islands

October 20, 2014



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Preface

Disasters know no borders between nations, states, or tribal lands and communities, risks and vulnerabilities affect all of us. Working together, communicating with the whole community, we can leverage our resources to protect, prevent and minimize the impact of disasters and help each other recover.

FEMA Region II is responsible for coordinating the Federal Response during emergencies and major or catastrophic events within Puerto Rico and the US Virgin Islands territories. These jurisdictions of the Caribbean Area demanding close attention not only because of their tourism value, bustling pharmaceuticals industry, rum production, and healthcare technological advances; it is home to 3,832,194 of U.S. citizens that may ultimately rely on off-island support in times of disaster.

The Caribbean Area is familiar with the threat of tropical cyclones. We only need go back a decade or two to recall some severely destructive storms to affect the islands.

Hurricane Hugo (1989) – wiped out most of St. Croix (USVI) destroying the entire infrastructure on the island. Twenty-three (23) foot waves came crashing ashore. Ultimately, to establish on-scene protection on St. Croix, the USVI government was forced to deploy over 1,000 US Military Police. Puerto Rico was next where thirteen (13) foot waves came ashore. Devastation continued inland with a huge loss of agricultural (coffee and banana) crops. Sadly, fourteen lives were lost, totaling from both Puerto Rico and the US Virgin Islands.

Hurricane Marilyn (1995) – caused such significant amounts of debris in the Port of St. Thomas; it took well over ten days to re-open the port safely. There were over 10,000 people left homeless and ten deaths. Massive landslides occurred across Puerto Rico.

Hurricane Hortense (1996) – struck Puerto Rico leaving over 1.1 million people without water and over 1.3 million people without power. The power failure ultimately led to dam gates malfunctioning, aiding to the widespread flooding. Floods caused the most deaths from the event, 19 in total. Crops and roads were damaged in excess of \$150M.

Hurricane Georges (1998) – moved from east to west over the island of Puerto Rico and inflicted the worst damage the island has seen. An unprecedented major disaster declaration for all 78 municipalities was issued by the President. 3.6 million Residents were left without electricity for several months, over 40 bridges damaged lacking access to the communities, and over 2.5M cubic yards of debris was collected. Electricity was unavailable as transmission lines that crossed mountainous terrain were destroyed and repaired via helicopters. The Federal Government deployed 4,800 employees to support Puerto Rico.

In total, since Hurricane Hugo, damages in the Caribbean have exceeded \$6 billion.

FEMA's programmatic efforts have been tremendous. Federal Mission Assignments to other Federal agencies during response operations have included deploying the US Marshals,

supplying and delivering photovoltaic generators, providing helicopters to reconstruct the electrical transmission grid, transporting electrical crews, and providing vegetative debris chippers and grinders. Payouts from the National Flood Insurance Program have exceeded \$80M dollars over the past 20 years. Federal preparedness grants for Puerto Rico alone have exceeded \$205M. The amount of certified debris management plans is on the rise, bringing more jurisdictions into eligibility status for Public Assistance reimbursement. Mitigation projects and advances in technology have postured the islands to be much more resilient. A majority of critical facilities (including water distribution plants) have back-up power and over 95% of gas stations have generators. Wind retrofitting has been occurring across the islands to better handle hurricane force winds. Dams are being built and maintained across Puerto Rico as flood control and water collection efforts. The number of available shelters (for future events) is increasing. The Distribution Center – Caribbean is a tremendous support to the area keeping generators, tarps, water, meals, and other necessary resources nearest to the people who need it.

Although a tremendous amount of work has been accomplished, we must still prepare for the inevitable “big one” that will test local, commonwealth, territorial, and Federal capabilities.

This plan addresses those primary concerns of electricity, communications, and potable water, among others. In our response efforts we must not forget those residents in isolated communities including Vieques, Culebra, and Water Island. The strategy is in place for an air/sea bridge to establish a safe and secure transportation network to reach all those in need.

This plan is addressing Response Core Capabilities through an overall Concept of Operations which includes specifics about the Caribbean Area. There is a Cultural Awareness section that informs those unfamiliar with the Caribbean about some specifics that are necessary to know. This plan includes activities in ‘Actions by Phase’ for the operators of each emergency support function (ESF) or Regional Response Coordination Center section. The plan also provides a tropical cyclone timeline and executive checklist as a guide to help decision makers through the days and hours leading up to and shortly after the tropical cyclone makes landfall.

Purpose

The FEMA Region II Hurricane Annex for Puerto Rico and the US Virgin Islands expands the concepts within the All Hazards Plan (AHP) to better describe the missions, policies, responsibilities, and coordination processes across emergency response operations for a notice tropical cyclone incident which requires specialized or unique response(s). The purpose of this annex is to support the expedited jurisdictional response to tropical and sub-tropical systems, including catastrophic hurricanes, as well as tropical depressions, tropical storms, and hurricanes, and their secondary and cascading impacts on locations in Puerto Rico and the US Virgin Islands. This plan is to be used in conjunction with the AHP, and is not an exclusive independent document.

NOTE: See [Appendix 5: Executive Checklist](#) for a timeline of Region II executive-level considerations, decisions and actions that are aligned with those of Puerto Rico and the US Virgin Islands.

Situation

The established hurricane season of June 1 – November 30 is an annual reminder of the threat this plan addresses. Our interests in the Caribbean are often threatened early into the season before the East Coast of the United States. However, there can be times when both areas of the Region are threatened at the same time. Although the threat is the same, there are a variety of scenarios that must be realized. Hazards associated with tropical cyclones, regardless of geographic location, include storm surge, high winds and flooding from heavy rains.

National Disaster Planning Scenario 10 describes the catastrophic event used for planning purposes. This scenario is for a tropical storm that develops in the Atlantic and is upgraded to a hurricane after 5 days in the open waters. After 4 days, the hurricane has steadied at dangerous Category 4 level on the Saffir-Simpson Hurricane Scale and models indicate a track that includes a possible landfall along the coast adjacent to a major metropolitan area within 2 more days. The hurricane reaches its peak as predicted and tropical storm force winds or higher makes landfall with a direct hit on the major metropolitan area and coastal towns. The next day the hurricane moves out. The rain associated with the storm has caused rivers to overflow their banks, and several rivers systems are experiencing record flood levels.

Although hurricanes and their accompanying storm surges pose the greatest threat to life and property, tropical depressions and tropical storms can also be devastating. In addition, storm surge can account for a large number of casualties and personal property damage. Flooding resulting from storm surge or heavy rains and severe weather, such as tornadoes, can cause loss of life and extensive damage.

Scope

This Hurricane Annex describes how the Federal Government, through FEMA Region II, supports the local, territorial, and commonwealth governments in Puerto Rico and the US Virgin Islands to save lives, protect property and the environment, and meet basic human needs following an incident of severe tropical weather. Because tropical cyclones are notice incidents, this Annex provides additional details for actions and tasks to be taken during pre-incident phases 1b and 1c that are not addressed in the Region II All Hazards Plan.

As an operational plan, this annex informs efforts to address potential or actual incidents. Developed under non-emergency conditions, it is a deliberate plan. As such, it includes a concept of operations and support for mitigating, responding to, and recovering from potential threats or hazards. Additionally, it includes detailed information on personnel, resources, projected time lines, assumptions, and risk analysis. Like all deliberate planning efforts, the principle purpose of this annex is to inform and support incident operations. Transition from deliberate to adaptive planning occurs with the threat of a tropical cyclone.

This annex describes the integration and synchronization of Federal capabilities to accomplish mission-essential tasks identified by FEMA Region II, in conjunction with our commonwealth / territorial counterparts, and other Federal Agencies responding under the National Response Framework (NRF) and through the National Incident Management System (NIMS) in the event of an actual or anticipated tropical cyclone affecting the Caribbean Area. It applies the general responsibilities and principles of the NRF and NIMS to the specific hazard of severe tropical cyclones adhering closely to the Federal Interagency Operational Plan (FIOP). The plan also provides the basis for further planning at the Federal, regional, commonwealth / territorial and local levels.

This plan is flexible and scalable to address response to tropical cyclones of varying severity or landfall affecting neighboring jurisdictions. The deployment of resources under this plan may be undertaken in whole or in part, as individual decisions are made and risks are evaluated through the Regional Support Plan and Incident Action Planning process. The focus of this plan is on tropical cyclone response and initial recovery actions; setting favorable conditions to stabilize the incident and for long-term recovery for the commonwealth / territories of Region II.

Planning Assumptions and Critical Considerations

Each event will require extensive examination prior to executing pre-defined elements or atypical actions developed during the planning process. The following are key planning assumptions for this annex.

- The RRCC will be activated and operational 120 hours before onset of tropical storm force winds in the United States, its territories, and/or possessions.
- FEMA will coordinate with the commonwealths / territories to provide liaison officers and representatives to the appropriate Territory and Commonwealth Emergency Operations Centers (EOCs) 96 hours before the onset of tropical storm force winds or when requested by the respective Territory / Commonwealth Emergency Manager.
- FEMA Region II will establish an interim operating facility (IOF) within theater 72 hours before tropical storm winds. The IOF will be staffed by IMATs and when feasible, co-located with or within close proximity to the EOCs.
- The New York-based IMAT will deploy to/work with the government of the US Virgin Islands. The Caribbean Area Division IMAT will deploy to/work with the government of Puerto Rico.
- The Federal response will be scalable and tailored to the severity of the incident and responsive to the requirements of affected States.
- Response operations will conclude when the termination factors established by the Unified Command are met. At that point, Federal involvement will transition to long term recovery and future hazard mitigation operations.
- State and local governments will partner/participate in all pre-landfall, landfall, and post-landfall planning and operations actions.

- In the event five-day warning is not available, FEMA, and its partner Federal departments and agencies, and their State and local government and volunteer, non-profit and non-government, and private sector partners, will have a capability to compress the planning and operational activities for which they are responsible to react to the impending storm.

This following highlights operational considerations necessary to aid in the response of a notice tropical cyclone incident. These items are supplemental to the critical considerations outlined within the All Hazards Plan.

- **Weather Forecasting:** Track accuracy has improved tremendously over the decades of tropical cyclone forecasting. Intensity forecasts are gradually improving as well. Although the overall improvements have reduced the margin of error, a margin still exists and this must be taken into account when attempting to stage and deploy resources. Sometimes there are days of notice, other times there could be just hours.
- **Travel/Lodging Restrictions:** Travel restrictions implemented by local and commonwealth / territorial authorities or the private sector before or after tropical storm winds may affect Federal interagency operations. Airport and seaport restrictions will impede getting aid to any island. Hotel space commonly used to house responders may be necessary to house survivors. Caution must be paid to the number of personnel being brought in and how they will be supported.
- **Resource Movement/Staging:** Pre-positioning/pre-staging is limited after a certain point in time due to the uncertainty of the storm's path. Some resources being staged and shipped for a Caribbean response may be threatened if the storm makes a continental United States approach. Staging resources on either island also places them in harm's way and could render resources unavailable. Navigating the islands can be difficult in normal conditions; after a tropical cyclone they could be much worse. Therefore getting resources to the island is one challenge, the other is moving them across the island.
- **Limited Ability to Evacuate:** The islands present few options for evacuating people out of danger. Evacuations away from the coast ultimately lead into mountainous terrain. Both locations are perilous, either from surge inundation or mudslides and blocked roads. Puerto Rico and the US Virgin Islands have varying protocols regarding recommendations for evacuation orders.
- **Evacuation Routes May be Overwhelmed:** If evacuations are ordered, if the volume of traffic is too great, or if the public delays in evacuating, routes may be overwhelmed resulting in complications to people being unable to leave the affected area, especially those populations with access or functional needs.
- **Interdependencies Between Shelters and Transportation:** The transportation solution to evacuation is based on the numbers of people needing evacuation, availability of privately owned transportation, numbers of evacuees with special mobility and medical needs, the time available to conduct operations, and the distance to (and availability of) shelters (private or public).

Concept of Operations

FEMA Region II has primary oversight for Federal response, recovery, and mitigation operations, and is the coordinating authority for all Federal interagency partners in support of tropical cyclone operations in Puerto Rico and the US Virgin Islands. Each Federal department and agency will continue to maintain its roles and responsibilities in accordance with Federal laws and regulations. Federal department and agency officials will integrate and synchronize incident management activities.

The process of Alert/Activation begins with receipt of a Tropical Disturbance Message from the National Oceanic and Atmospheric Administration (NOAA) into the Region II Regional Watch Center. The message is processed and delivered to Region II staff and key partners as a Situation Awareness Alert (SAA). The Hurricane Program Manager in the Response Division will provide recommendations for Alert/Activation to Senior Leadership based on current data that is made available, and continues to actively track the area of interest and make recommendations as conditions change or NOAA is able to provide probability of impact.

Region II utilizes three levels of activation for the RRCC (Level III, II, I). Not included in the levels are two postures: Steady State and Enhanced Watch. Daily operations and situational awareness activities conducted by the Regional Watch Center as per their SOP is Steady State. When an event requires more detailed/dedicated analysis, the RRCC activation level can be raised to an Enhanced Watch. Another option is to increase the RRCC to Level III, composed of ESF 5 (FEMA personnel), to establish multiple sections of the RRCC organization structure that is specifically focused on preparing the Federal response to the storm as it develops.

The RRCC can transition into Level II activation which would add other Federal agencies (ESFs 1, 3, 4, 7, 8, and 12 and others as needed) as well as the Defense Coordinating Element (DCE) if deemed necessary for meeting the anticipated need of the State(s) when the threat increases and the need for additional support to the state is determined.

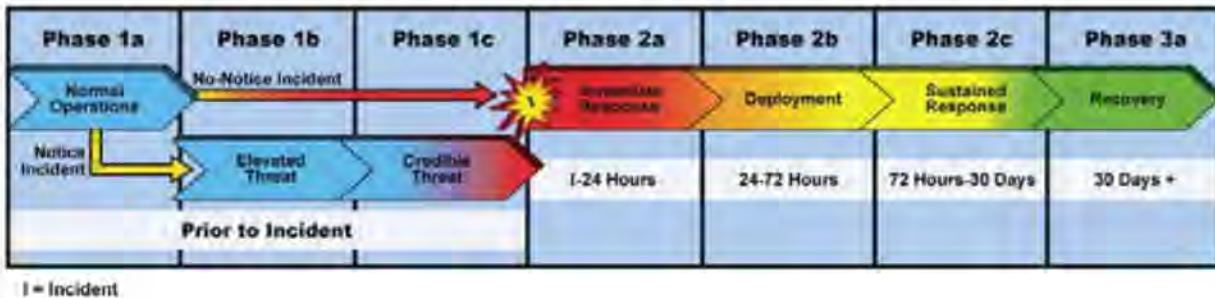
If the threat of landfall has increased significantly (or the storm's intensity and proximity to the PR/USVI AOR) then RRCC activation can be raised to Level I which is "Full Activation." Level I includes all RRCC positions, staffed fully with redundancies, and all ESFs (and other agencies) on both day and night shifts. The decision to activate the RRCC is made by the Regional Administrator (RA), or in the RA's absence, the Deputy RA or Response Division Director.

Region II staff, RRCC staff and partners, including the Defense Coordinating Officer/ Defense Coordinating Element (DCO/DCE), will be alerted to Warning or Activation orders through the Emergency Notification System (ENS) during duty and non-duty hours. In addition a Warning or Activation Order will be issued by the Response Division Director to staff Region II Emergency Support Functions (ESF) and the IMAT(s). ESFs may also be activated and deployed without a Mission Assignment, under a verbal agreement or activation order, to guarantee the ESF that a Mission Assignment will be complete shortly thereafter (usually issued from Response Division or the RRCC Mission Assignment Unit Leader (MA Manager).

Operational Phases

Tropical cyclones are notice incidents that allow responders to plan up to several days in advance of impact. This hurricane incident annex provides tasks for phases 1b and 1c.

Figure 1: Operational Phases.
(Note that Incident (I) is the onset of tropical storm force winds)



Phase 1

When it is apparent that a tropical cyclone threatens the United States and that Federal support may be required, the Department of Homeland Security, under its Homeland Security Presidential Directive (HSPD)-5 authorities, moves quickly to coordinate multiple Federal activities.

Given the advances in weather forecasting and storm tracking, there is lead time to give advance warning to the public and coordinate with local, state, tribal, territorial, and insular area emergency managers. However, until the storm is 36 hours from the onset of tropical storm force winds, the exact location of landfall and the scope of tropical cyclone-related consequences are less predictable. A tropical cyclone affects multiple jurisdictions, so Federal response operations must be forward-leaning and flexible to be effective.

Prior to, and during, a catastrophic tropical cyclone incident, the Federal Government mobilizes and deploys assets in anticipation of a formal request from the state for Federal support. The intent of these proactive efforts is to ensure that Federal resources reach the impacted area in time to assist in restoring any disruption, and are performed in coordination and collaboration with whole community partners, when possible.

Phase 1 is divided up into three sub-phases: 1a, 1b and 1c. Phase 1a is continuous and ongoing, also known as normal operations or monitoring. Phase 1b starts when the National Hurricane Center's 5-day Track Forecast Cone includes or is near the PR/USVI area. Phase 1c starts when the National Hurricane Center's 3-day Track Forecast Cone includes or is near the PR/USVI coastal area. Phasing below includes descriptions of "H" minus or plus a certain number of hours. "H-hour" being the onset of tropical storm force winds, a commonly accepted indicator of when to stop activities (conditions are unfavorable and dangerous to operate in).

This document attempts to capture the response to a catastrophic event. If the circumstances (storm characteristics) are less severe, actions may vary from the phased-descriptions below. For example, the level of Enhanced Watch may continue through onset of tropical storm force winds because the threat does not warrant a more extensive response.

Phase 1a – Monitoring / Normal Operations (Over H-120hours)

A tropical disturbance or more intense storm system is present in the Atlantic or Caribbean basin.

Phase 1a is such a significant distance away from the PR/USVI Area of Responsibility (AOR) that this is “steady state” for the RRCC and response operations. At this time, the Region II Regional Watch Center is functioning under their standard operating procedures.

Phase 1b – Elevated Threat (H-120 to H-72)

The moment the 5-day forecast cone (when available) includes and remains within the PR/USVI AOR; or when a tropical disturbance or more intense storm system is in that range.

During this time, and up to the formal activation of the RRCC, an Enhanced Watch will routinely analyze available data and brief senior leadership on storm details and key decision points. As needed, the Enhanced Watch staff will disseminate an Operational Summary, to detail activities throughout the Enhanced Watch level of activation. If this situation warrants, a Level-III activation may be warranted.

The decision to deploy the Incident Management Assistance Teams (IMAT) to Puerto Rico and US Virgin Islands governments should be done no later than 72 hours prior to onset of tropical storm force winds/closest approach of the disturbance. This will allow safe movement and enough time to establish lodging and connectivity with our stakeholders.

Phase 1c – Credible Threat (H-72 to H-hour)

The moment the 3-day forecast cone (when available) includes and remains within the PR/USVI AOR; or when a tropical disturbance or more intense storm system is in that range.

The Region II RRCC will activate to a Level-II and begin preparing for an increased activation and potential land-falling event. This includes deployment notifications to all FEMA personnel (IMAT, RRCS, reservists) as well as other Federal agencies, private/non-governmental partners, verification of surge account funds, checking inventory of warehouses and support capabilities. Phase 1c is also when consistent and routine communications with our State and Whole Community partners begins. Monitoring and reporting of State activities also starts.

Phase 1c anticipates/schedules the release of more robust capabilities like air support, medical teams, and support bases. Pre-positioning of resources may take place to better effect post-landfall activities. IMATs will coordinate with states to identify potential federal resources required to support the state/federal pre-landfall incident objectives.

States should consider the option of requesting a pre-disaster emergency declaration. See FEMA Policy 010-4 for more information. Consider activating to a Level-I if the situation warrants.

Phase 2

The transition from Phase 1 to Phase 2 can occur as the onset of tropical storm force winds make landfall and requires a federal response to support the commonwealth/territory. After tropical storm-force winds affect an area, actions are taken to provide an immediate, coordinated, and effective Federal response to save lives, shelter the affected population, and reduce property damage in support of the affected commonwealth/territorial and local governments. During this phase, damage assessments are performed in order to prioritize resources. Close coordination with the affected jurisdictions will yield support for the restoration of infrastructure systems as well as transportation routes. Actions continue until there are sufficient resources available to stabilize the incident, and provide commonwealth/territorial or local governments the ability to reassume full response operations.

Phase 2 is divided up into three sub-phases: 2a, 2b and 2c. Moving from one sub-phase to another is based upon leadership decisions that take into consideration the current situation. It is situational specific and will generally be different for every disaster. Phase 2 ends when the Region is no longer doing lifesaving or life sustaining operations.

Phase 2a – Immediate Response (H-hour to H+24 hours)

Phase 2a can be considered the period of operations at the onset of Tropical Storm force winds (or landfall of the tropical cyclone) through the next 24 hours.

The Region 2 RRCC will activate (or remain activated) at an appropriate level relative to the event. Staged resources may begin to move closer to the affected area, in anticipation of formal state requests (post-declaration) or in accordance with the Stafford Act, section 502 (a)(8), indicating that the President, delegated to the Regional Administrator, may act without the presence of a specific requests, to provide the necessary resources to protect life and property. This is known in commonly used FEMA vernacular as “leaning forward” or a “pushing resources”.

Region II RRCC will maintain contact with the state, IMAT, and the NRCC in response to damage inflicted by the tropical disturbance.

Phase 2b – Deployment (H+24 hours to H+72 hours)

The threat from the tropical disturbance (or more intense storm system) is eliminated; tropical storm force winds have left the area.

The IMAT and RRCC will continue to work in support of PR/USVI to perform lifesaving, life sustaining measures and the other goals and objectives identified through unified coordination. Search and rescue activities, movement of commodities, and movement of assessment teams is usually the most common activity occurring in this phase. Future Planning may also begin; the focus of future plans to be determined by

unified objectives/needs identified. Ultimately a request for PDAs and possible declaration may follow.

Phase 2c – Sustained Response (H+72 hours to H+30 days)

Please refer to the Region II All Hazards Plan.

Phase 3 – Recovery (+30 days)

Phase 3, which encompasses recovery and mitigation activities, begins as early as Phase 2 but may continue for months or years depending on the damage from the tropical cyclone. The Federal government supports survivors with disaster assistance programs as necessary, ultimately through the Office of the Federal Disaster Recovery Coordinator (if appointed).

Gradually, during the response phase, efforts shift towards recovery. Linkages exist between response and recovery thus making the transition seamless and transparent. Some activities can be coordinated prior to landfall including the availability of preliminary damage assessment teams. Post-landfall, recovery efforts are more noticeable and primarily offered after a declaration is issued. Once the declaration is issued and life-saving operations have ceased, a clearer transition to recovery is visible. Efforts are to assist survivors with registration as well as governmental entities requesting public assistance. Mitigation also comes to the forefront during the recovery phase.

Hurricane-Specific Objectives

The National Preparedness Goal identifies core capabilities for response operations.

The Region II All Hazards Plan and its respective objectives for each core capability were developed for a no-notice event. Consequently, the courses of actions have been designed with no lead time to prepare for a notice event such as a hurricane. This plan has revised objectives to reflect the notice event of a hurricane (or other tropical cyclones). Table 1 below shows the objectives of this plan for each core capability. For each capability, it shows whether the objective is the same or has been revised from the All Hazards Plan.

Table 1: Hurricane Objectives by Core Capability

Core Capability	Objective	Location of More Detailed Information
Planning	Within 72 hours of the onset of tropical-force winds, a transition from deliberate to adaptive planning will occur. During Phase 1c, the Regional Response Coordination Center's (RRCC) Planning Support Section, through ESF-5, initiates the adaptive planning process. (Revised from AHP)	Appendix 1

Core Capability	Objective	Location of More Detailed Information
Situational Assessment	The RRCC Situation Awareness Section, with the Hurricane Liaison Team, will use products/tools to enhance situational awareness of potential and assessment of actual impacts. The Situational Awareness Section will coordinate with the Planning Support Section to ensure the appropriate products/tools are employed in the adaptation of deliberate plans and the development of adaptive plans. (Revised from AHP)	Appendix 1, Tab 2
Operational Coordination	Facilitate coordination of critical resources and establish command and control structures within impacted jurisdictions to meet basic human needs, stabilize the incident and transition into recovery. (Revised from AHP)	Appendix 2
Public Information and Warning	Provide public information to the impacted populations in coordination with Puerto Rico and US Virgin Islands governments. (Revised from AHP)	Appendix 2, Tab 1
Public Health & Medical Services	Within 24 hours of safe conditions, have teams on site at State specified facilities to provide life-saving, life-sustaining services. (Revised from AHP)	Appendix 2, Tab 2
Environmental Response / Health & Safety	Deploy adequate environmental response capabilities within 48 hours to impacted jurisdictions to mitigate oil and hazardous substances spills or releases and prepare responders for contact with environmental hazards. (No change from AHP)	Appendix 2, Tab 3
Fatality Management	Make accurate assessment of fatalities in each incident and plan deployment of public and private resources to augment local medical examiners. (No change from AHP)	Appendix 2, Tab 4
Infrastructure Systems	Assess and prioritize CIKR damaged by incidents and coordinate public and private sector resources that will reduce the further loss of life. (No change from AHP)	Appendix 2, Tab 5
Mass Care Services	Deploy mass care services for up to 25 percent of the impacted population. (No change from AHP)	Appendix 2, Tab 6
Mass Search & Rescue Operations	Prior to landfall, stage anticipated required resources and teams at the Incident Support Base or facility as requested by PR/USVI. (Revised from AHP)	Appendix 2, Tab 7
On-Scene Security and Protection	Prior to landfall, stage anticipated required resources and teams at the Incident Support Base or facility as requested by PR/USVI.	Appendix 2, Tab 8
Operations Support / (Public and Private Services and Resources)	Re-establish the public and private sector supply chain(s) that restores the population's access to prioritized goods and services. (No change from AHP)	Appendix 3
Critical Transportation	Determine the most appropriate transportation services that facilitate the response and support survivor needs within two operational periods. (No change from AHP)	Appendix 3, Tab 1
Operational Communications	Prior to landfall, complete hardening of telecommunications resources against deformation and power outages. (Revised from AHP)	Appendix 4

Concept of Support

FEMA Region II support for the Caribbean is the exception to the FEMA concept of support that relies on ground transportation for the Federal push of resources into a disaster area. All assets

destined for deployment pre-landfall require air transportation. Assets being deployed post-landfall may utilize air transportation as well as maritime transportation. This limits the output and size of the Federal footprint in the Caribbean. Assets must be prioritized for life saving then life sustaining. Determining which lifesaving assets will be deployed first is a significant challenge. This reality dictates the need for a time-phased resource deployment as well as strategically choosing locations for staging (airports, seaports).

When considering the initial push of resources, please consider consolidating resources by type and location (i.e. lifesaving teams will come from Miami, FL; commodities will come from Atlanta, GA.). Airspace and airflow will be restricted in the days after landfall. It is not prudent to send resources from multiple airports and seaports into a location that has one if not two operating facilities. Consolidation and coordination will facilitate a controlled flow of resources to the space and capability-limited Caribbean islands.

There are only two facilities, both in Puerto Rico, that have the capability to serve as Incident Support Bases (ISB). The most efficient ISB location is Jose Aponte Airport (Roosevelt Roads) in Ceiba, PR. The second location is Rafael Hernandez Airport (Ramey) in Aguadilla, PR. Post-landfall assessments will indicate which facilities are operational. The primary assumption is that at least one of these facilities will survive. Providing resources directly to the US Virgin Islands is preferable but unlikely because of limited capacity at the airports on St. Thomas and St. Croix; there is no airport on St. John. So then, resources destined for the US Virgin Islands will pass through the ISB on Puerto Rico and then transported to each island, as necessary.

Once an ISB is established, a hub and spoke logistics system will be implemented using a combination of local trucking, maritime, and rotary and fixed-wing assets to delivery resources and personnel to impacted areas.

- In Puerto Rico, the hub and spoke system is from the Federal ISB to Puerto Rico National Guard Armories then to *municipio* facilities. This is to include deliveries to the populated islands of Culebra and Vieques off Puerto Rico's eastern coast.
- In the US Virgin Islands, more assistance may be required to deliver resources directly to the population through their pre-identified shelters and points of distribution locations.

Thus it is prudent to re-establish logistics nodes (port opening and airfield assessment teams) as the first priority to enable Federal response.

Key Federal Decisions

Key state and federal decisions required during response to a tropical cyclone event include but are not limited to:

- Deployment of large teams, equipment caches, and national contracts.
- Requesting/Assisting with a pre-disaster emergency declaration.
- The location of Incident Support Base (ISB), Regional Staging Area(s) (RSA), Responder Support Camp(s) (RSC), Points of Distribution (POD) or other interim operating facilities.
- Evacuations pre- or post-event

- If a JFO is to be established, decisions on location, staffing, program priorities, and demobilization will be required.

Information Requirements

Essential Elements of Information (EEl)s form a comprehensive list of information requirements, derived from deliberate plans that are also needed to promote informed decision making.

Senior-level decision-makers responsible for implementing this plan should consider the following hurricane-specific EEl)s:

- The tropical cyclone's designated category, geographic location, projected storm track (including forward speed and direction), intensity, barometric pressures, storm surge height, projected destruction, anticipated landfall time and place, potential for tornado activity.
- Forecasted weather and seas in the area, including anticipated storm surge, river flooding and rainfall, potential for tornado activity, well as risks to vulnerable water structures (i.e., levees, dams).
- Impacted population demographics (including: total numbers affected, functional needs populations/locations).
- Local, territorial, and commonwealth evacuation plans, time lines, and instructions (including estimates on evacuation numbers, the evacuation of critical facilities such as hospitals and nursing homes).
- Identification of local, territorial, commonwealth, and national-level priorities.
- Critical Infrastructure/Key Resources in the potentially affected area.
- Estimated number of shelters and population
- Status of re-entry plans and information affecting the safe return of residents, such as the number of homes destroyed or damaged by wind or flooding.
- Pre-positioned FEMA assets/actions (ISB, commodities, IMATs, LNOs, etc.)

Critical Information Requirements (CIRs) are specific types of high-priority EEl)s. What typically separates a CIR from an EEl) is its urgency. For example, the death or serious injury to a Federal responder or actual, major damage to CI/KR facilities should be reported immediately.

Coordinating Instructions

When the territory or commonwealth requests Federal support in preparation for or response to an impending tropical cyclone, the Regional Administrator will coordinate Federal operations for domestic incident management as directed in HSPD-5. The coordinating instructions for this Hurricane Incident Annex will follow those instructions outlined within the Region II All Hazards Plan.

Oversight, Annex Development, and Maintenance

The authorities that guide the structure, development, and implementation of the Region II All Hazards Plan, and this Hurricane Incident Annex, are statutes, executive orders, regulations, and presidential directives. Congress has provided the broad statutory authority necessary for this plan, and the President has issued executive orders and presidential directives to supply policy direction to departments and agencies of the Executive Branch.

FEMA Region II, in close coordination with FEMA HQ, the Office of the Secretary of Homeland Security, is the executive agent for the Region II All Hazards Plan and this Hurricane Incident Annex, and is responsible for management and maintenance. The Hurricane Incident Annex will be updated periodically, as required, to incorporate new presidential directives, legislative changes, and procedural changes based on lessons learned from exercises and actual incidents.

Authorities and References

Refer to the Region II All Hazards Plan (AHP).

Cultural Awareness

Please be aware there are some cultural and geographic nuances that should be understood when operating within Puerto Rico and the US Virgin Islands. Some of them are listed below.

Puerto Rico

Spanish is the primary language of Puerto Rico

The population of Puerto Rico ranks 27th of the 50 United States and its territories (approx. 3.7M population).

Similar to the government structure of counties in mainland United States, there are 78 municipalities, in Spanish 'municipio'.

The government of Puerto Rico has grouped their municipios into 12 PREMA Zones (see map in Operational Coordination Section)

2 municipio islands are separated from the mainland of Puerto Rico: Culebra and Vieques (in PREMA Zone XII Ceiba).

Across the island there are 184 rivers and 35 dams.

US Virgin Islands

English is the primary language, however influenced by Creole and Dutch terms.

The population of the US Virgin Islands is approximately 110,000.

Vehicular traffic is European-style where you drive on left using American vehicles that were designed to drive on the right.

The archipelago includes 3 primary islands (St. Thomas, St. Croix, and St. John) and Water Island, under the jurisdiction of St. Thomas.

The topography of the US Virgin Islands severely limits the even/flat terrain necessary for large Federal operations (staging areas, base camps, etc).

There is no natural source of fresh water for St. Thomas and St. John. Water is desalinated or collected in private cisterns.

Existing inter-island transportation consists of:

- Passenger and cargo ferry service between St. Thomas and St. John;
- Seaplane service (passenger only) between St. Thomas and St. Croix.
- No formal transportation exists between St. John and St. Croix.
- Limited ferry service between St. Thomas and Water Island.

Appendix 1: Planning

Unlike the All Hazards Plan, which is based primarily upon a no-notice catastrophic incident, the Hurricane Incident Annex is based upon a notice tropical cyclone incident. Per the Regional Incident Support Manual, this section will include the development of regional-level plans that support State operations at the incident level. The staff provides a range of planning services to address present or known requirements and to anticipate and devise means to deal with future needs. The incident planning that occurs at the regional (RRCC) level is inherently differently from the planning that goes on at the incident level (IMAT). Ultimately, planning helps to ensure that the efforts of response, recovery, and mitigation are well coordinated and that these efforts support jointly developed objectives and the priorities of leadership at all levels.

Hurricane Planning Objective: Within 72 hours of the onset of tropical-force winds, a transition from deliberate to adaptive planning will occur. During Phase 1c, the Regional Response Coordination Center's (RRCC) Planning Support Section, through ESF-5, initiates the adaptive planning process. (Note this objective is revised from the All-Hazards Plan and is specific only to hurricanes and other tropical cyclones.)

Concept of Operations for Planning

Planning is a continuous process but this section will focus on the planning related to the threat of a tropical cyclone. FEMA Region II's Response Division has an Operations Planning Branch that writes and maintains the All Hazards Plan and its hazard-specific annexes. Their efforts are year-round. Occasionally a threat occurs where the Regional staff, with collateral duty in the realm of planning, is called into service. The plans created should be used by the Planning Support Section and by the Chief and Advisory Staff to establish operational procedures and initial actions.

The RRCC activation is the first of many transitions in the planning cycle. This transition is highlighted by collateral duty staff manipulating the static All Hazards Plan and Hurricane Annex into the Regional Support Plan (RSP). The Regional Support Plan is a tailoring of the existing plans into a document that is more "field" useable as well as crafted to the specifics of the current event. It is done through knowledge of the existing plan, data from the current situation, and direction from the Chief and Advisory staff.

Incident Management Assistance Teams (IMATs) will eventually arrive to link up with Puerto Rico and US Virgin Islands governments. This linkage is another transition in planning because the IMAT will begin to produce an Incident Action Plan (IAP), which would then dictate how the Region (the RRCC) postures itself to support PR/USVI and the IMATs. The issuance of the first IAP thus changes the implementation of the RSP (and potentially its contents). Continued adjustments could be made, if necessary. The IAP becomes more prominent for response purposes, thus allowing a shift in the Planning Support Section's efforts. Further, the PSS reviews, edits, and distributes execution checklists, synchronization matrices, and other deliberate planning aids to the RRCCs and, as appropriate, the IMAT.

The final transition is the as the event transitions into Federal Coordinating Officer control in a Joint Field Office. A literal transition to a new space includes the necessary data, materials, schedules, etc. to the new location and other staff. It is possible in larger events that RRCC staff may work in the field as well. As with any transition, the more information shared and introductions made the smoother and more consistent the products and services will be.

Actions by Phase and ESF

Phase 1a – Monitoring / Normal Operations

End State: Plans have been exercised and tested across local, territorial, commonwealth, and Federal entities. Private sector and nongovernmental organizations (NGO) have participated in exercises, as appropriate.

All ESFs

- Conduct continuity planning.
- Ensure linkages with the Regional Interagency Steering Committee (RISC), liaison officers, operations centers, and other departments and agencies.
- Conduct training and exercises in preparation for a tropical cyclone and applying lessons learned and best practices to operating procedures.

Phase 1b – Elevated Threat

End State: Plans are executed based on the current situation. Additionally products are developed in support of the current incident as appropriate.

All ESFs

- Conduct operational planning.

ESF-5

- *Situational Awareness Section (SAS):* Coordinate tropical cyclone data gathering operations including storm tracking and predictions.
- *Chief and Advisory Staff Section (CSS)/Planning Support Section (PSS):* Identify deficiencies or limiting factors in planned capability.
- *All sections:* Monitor information on the storm and begin to prepare for potential landfall.
- *SAS:* Notification from the Hurricane Liaison Team of a tropical cyclone threat to help advise FEMA senior leadership on the appropriate hazards.
- *RSS:* Determine the need to activate Federal resources in advance of formal requests for assistance.
- *PSS:* Conduct regional-level operational planning in coordination with the respective State(s).

Phase 1c – Credible Threat

End State: Plans continue to be updated and revised. Additional stakeholders have been incorporated into planning efforts, as appropriate.

ESF-5

- *PSS*: Identify the Core Capability appendices applicable and alter to match the specific incident, and develop metrics to determine whether the incident requires a scaled down response approach or requires the catastrophic incident objective and supporting tasks identified in each Core Capability.
- *PSS*: Develop the initial Regional Support Plan (RSP) and disseminate for execution. The RSP will be distributed to HQs for visibility on Regional priorities and activities, and to FEMA and response partner personnel who will be deployed. While not inherently shared with state partners, if requested, RSPs and other Planning products can be shared with state partners.
- *PSS*: Work with the Situational Awareness Section to identify incident issues that will require an Advanced Operations Plan (AOP) (ex: short-term sheltering plan), and develop in conjunction with RRCS and ESF partners.
- *PSS*: Continue issuing the Regional Support Plan based upon increasing situational awareness and further validation of the Regional All Hazards Plan Hurricane Annex.
- As FEMA elements are deployed and arrive at either state EOCs or IOFs, coordinate with deployed personnel to validate and align Regional response priorities with state priorities.
- The IMAT will develop a joint IAP with the state for preparedness actions prior to landfall.

Phase 2a – Immediate Response

End State: Existing plans have been reviewed to identify preliminary information requirements and initial actions as defined by predetermined execution checklists.

ESF-5

- Refine joint Federal/State incident objectives (goal is within 12 hours of dissipation of tropical storm force winds).
- *IMAT*: Update the IAP as necessary for changing situation.
- *PSS*: Develop any additional Planning products required by the specific incident (functional plans, demobilization plans, etc.).
- *PSS*: Continue to modify response operations plan as the tropical cyclone impacts are defined.

Phase 2b – Deployment

End State: Existing plans have been modified for the incident using a coordinated adaptive planning process. Critical objectives and accompanying tasks have been identified for the Federal response effort.

ESF-5

- *PSS*: coordinate with the deployed IMAT(s) to ensure State priorities are reflected in the IAP and RSP.
- *PSS*: prepare for transition to IMAT/Joint Field Office staff, including the termination of the RSP iterations.

Phase 2c – Sustained Response

End State: Coordination has taken place between response and recovery plans/planners.

ESF-5

- *PPS*: As the Joint Field Office and Planning Section become functional, are able to conduct joint planning with state partners, and are able to consistently issue jointly developed Incident Action Plans, the Planning Support Section will relinquish Planning responsibilities to the Joint Field Office.

Phase 3a – Short-Term Recovery

End State: Plans have been developed for transition to long-term recovery and the demobilization of Federal response personnel, programs, and resources.

ESF-5

- *PSS*: Develop an incident-specific strategic plan that includes milestones to transition from response to recovery to close out operations (goal is within 14 days of the FCO assuming operational control).

Tab 1 to Appendix 1: Risk Management

Risk management is the process for identifying, analyzing, and communicating risk and accepting, avoiding, transferring, or controlling it to an acceptable level considering associated costs and benefits of any actions taken. As a formal process for making informed decisions, planning promotes a common understanding of, and approach to, risk management.

Hazard Background

Hurricanes are tropical cyclones that develop in the northern hemisphere tropics, east of the International dateline. Tropical cyclones may be defined as a closed circulation developing around a low-pressure center in which the winds rotate counter-clockwise in the Northern Hemisphere. Tropical cyclones are classified as shown in Table A1-1.

Table A1-1. Classification of Tropical Cyclones

Classification	Maximum Sustained Wind
Tropical Depression	33 knots (38 mph or 62 km/hr) or less.
Tropical Storm	34 knots (39 mph or 63 km/hr) to 63 (73 mph or 118 km/hr).
Hurricane	An intense tropical weather system with a well-defined circulation and maximum sustained surface winds of 64 knots (74 mph) or higher.

Early season tropical cyclones are almost exclusively confined to the western Caribbean and the Gulf of Mexico. By the end of June or early July, the area of formation gradually shifts eastward. By late July, the frequency begins to slowly increase, and the area of formation shifts still farther eastward. By late August, tropical cyclones form over a broad area that extends as far east as the Cape Verde islands near the coast of Africa. The period from about August 20 through September 15 produces the maximum number of Cape Verde type storms, many of which travel across most of the width of the Atlantic Ocean. After mid-September, the frequency begins to decline and the formative area retreats westward. By early October, the area of maximum occurrence returns to the western Caribbean. While there is notice ahead of a tropical cyclone, its path and impacts are less predictable.

The average hurricane spans 500 miles in diameter, with an average forward speed of 15 miles per hour. As tropical cyclones, hurricanes produce major hazards that cause threats to the human environments: the storm surge or storm tide, high winds, tornadoes, and rainfall-induced flooding. Each hazard is briefly described below.

Storm Surge / Storm Tide

Although storm surge is often the greatest threat to life and property from a tropical cyclone, many people do not understand this term and the threat it represents. Storm surge poses a significant threat for drowning. A mere six inches of fast-moving flood water can knock over an adult. It takes only two feet of rushing water to carry away most vehicles—including pickups and

SUVs. Storm surge can cause water levels to rise quickly and flood large areas—sometimes in just minutes.

Storm surge is an abnormal rise of water generated by a storm, over and above the predicted astronomical tides. The greatest surge is typically experienced in the northeast quadrant of the storm. Storm tide is defined as the water level rise due to the combination of storm surge and the astronomical tide. The height of storm surge / tide depends upon several factors. Some of those factors include the storm size (defined as the radius of maximum winds around the storm's eye), angle of approach to the coastline, width and slope of the continental shelf, and local features such as concave coastlines, bays, rivers, headlands or islands. As a general rule, the stronger (measured by central pressure and wind speed) and wider (size) and faster the hurricane is, the higher the surge or tide will be. Along the immediate coast, storm surge is the greatest threat to life and property.

High Winds

A tropical cyclone can produce winds exceeding 157 miles per hour. Hurricane winds can damage buildings, destroy mobile homes, and other property. Debris, such as signs, roofing material, siding, and other items become airborne debris, causing additional injuries of damages in a hurricane. In addition, high-rise buildings merit special consideration; wind pressures on upper portions of tall structures can be much greater than those at ground level. The areas high-rise bridges become particularly vulnerable to high winds. Not only could they experience wind-related structural problems, but it could also impact evacuation times. The winds are the greatest cause of property damage inland of the coast.

The Saffir-Simpson Hurricane Wind Scale estimates potential property damage based upon a hurricane's sustained wind speed. Hurricanes are classified by categories on the Saffir-Simpson Hurricane Wind Scale as shown in Table A1-2.

Table A1-2. Saffir-Simpson Hurricane Wind Scale

Strength	Wind Speed (Kts)	Wind Speed (MPH)	Types of Damage	Historical Reference
1	64-82 kt	74-95 mph	Very dangerous winds will produce some damage: Well-constructed frame homes could have damage to roof, shingles, vinyl siding and gutters. Large branches of trees will snap and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.	Irene (2011) Hortense (1996) Betsy(1956)
2	83-95 kt	96-110 mph	Extremely dangerous winds will cause extensive damage: Well-constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.	Omar (2008) Georges(1998) Marilyn (1995)
3 (Major)	96-112 kt	111-129 mph	Devastating damage will occur: Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.	Hugo(1989) over PR
4 (Major)	113-136 kt	130-156 mph	Catastrophic damage will occur: Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.	Earl (2010) Lenny(1999) Hugo(1989) over USVI
5 (Major)	137 kt or higher	157 mph or higher	Catastrophic damage will occur: A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.	San Felipe(1928)

Tornadoes

Hurricane induced tornadoes can also affect many inland counties as far as 100 miles from the coast. In these tornadoes most often occur in the rain bands well away from the storm's center.

Rainfall-induced Flooding

Widespread torrential rains can produce deadly and destructive floods. Yet, the amounts and arrival times of rainfall associated with hurricanes remain highly unpredictable. For most hurricanes, the heaviest rainfall begins near the time of arrival of sustained tropical storm winds; however, heavy rains in amounts exceeding 20 inches can precede an approaching hurricane by as much as 24 hours. Unrelated weather systems can also contribute significant rainfall amounts within a basin in advance of a hurricane.

Operational

During a hurricane, core capabilities face impacts based on the hurricane's intensity. To be able to support the stabilization and restoration of basic services and community functionality, responders should be aware of the possible impacts as shown in Table A1-3.

Table A1-3. Core Capabilities and Projected Impacts from Hurricanes

Core Capability	Projected Impact
Planning	Hurricane response planning is adjusted based on the impact, and to meet the needs and actions required to save lives, protect property, and the environment. Regional Support Plans and Incident Action Plans will be created and revised as necessary to achieve the objectives of each operational period.
Operational Coordination	The ability to establish unity of effort will be delayed by damaged or degraded infrastructure as will the time required to establish lines of communications and pathways for logistical support. Multiple reporting methodologies and statutory authorities across the incident echelons, and multiple jurisdictions require coordination to maintain a unity of effort and common operating picture (COP) for efficient and effective response in support of states. The Federal Government response to a hurricane requires the establishment of command, control, and coordination across local incident commands and allocation of resources with local, territorial, and commonwealth governments; the private sector; and nontraditional stakeholders.
Operational Communications	Communications entities establish and maintain functional and interoperable communications systems for local, territorial, commonwealth, and Federal response teams. After the hurricane, 100% of communications infrastructure capabilities within the impact zone may be damaged, requiring alternative means of communication to reach the general public and meet public safety and first responder needs. This includes providing temporary support to local, territorial, commonwealth, and Federal governments when communications systems have been affected or disabled.
Critical Transportation	All types of transportation systems are vulnerable to damage from a hurricane. Flooding from a hurricane's storm surge can flood roadways and tunnels, wash out roads, damage bridges, and affect railroad tracks. Trees and other debris can also block roads, while traffic signals and street signs may be blown away. Seaports, waterways, and airports may be inoperable due to high winds or debris. Loss of power to any of the transportation systems can create additional problems. Federal resources are intended to support territorial and commonwealth governments with the transportation or evacuation of an affected population, and provide additional accommodations to the functional needs population and household pets. Following the hurricane, there will be a lack of detailed transportation assessments by territory, commonwealth, and local officials because of inadequate resources and degradation of the transportation infrastructure.
Environmental Response / Health and Safety	High winds and flooding from a hurricane can cause various environmental hazards for responders and the public. Sewage treatment systems can be flooded and release waste into fresh water systems. Chemical production facilities and storage systems can be breached and release hazardous materials. Commercial and household chemicals can be washed out of buildings and contaminate debris. Electrical and gas service into buildings can be damaged, producing dangerous conditions when service is restored. Hot and humid conditions in vacant, flooded buildings can lead to immediate mold growth. Local, territorial and commonwealth government Environmental Response/Health and Safety (ERHS) resources will be overwhelmed during the hurricane response and require Federal support. The Federal Government can provide coordination, guidance, technical assistance, and protection of the public by identifying and mitigating hazards in the affected area. Response operations can be complicated because the

Core Capability	Projected Impact
	mechanisms by which Federal agencies agree upon and communicate ERHS issues have been established, but delivery of one unified message to first responders and the public has not yet been implemented. Although the majority of ERHS, firefighting, and oil and hazardous materials response resources are local, state, and private sector assets, the Federal Government may be required to provide coordination of resources and support during a multi-island incident.
Fatality Management	Local, territorial and commonwealth fatality management operations directed by the lead medical examiner (or other authority) may be overwhelmed and require Federal fatality management assistance. The Federal interagency activates and deploys on-call teams (e.g., Disaster Mortuary Assistance Team) and specialized Federal resources (e.g., Disaster Portable Morgue Units) at the request of the jurisdictions and resources to assist in collection of anti-mortem data from the deceased, temporary human remains storage, mortuary services, and forensic identification.
Mass Care Services	Throughout all phases of a hurricane response, displaced individuals will require life-sustaining resources and services (e.g., shelters, food, water, non-acute medical services, functional needs, and pet sheltering) that cannot be provided on their own and overwhelm the capability of the local and state jurisdiction. National-level coordination of mass care includes emergency assistance, housing, and human services and identifies all additional national-level commodities and shelters that will be used to support local and state governments. Federal assistance is provided for contract support, subject matter expertise, staff augmentation, human material, and technical support when requested by the local, state,
Mass Search and Rescue Operations	After the hurricane passes, the first priority will be rescuing citizens who are trapped in buildings or by flood water. The sheer volume of citizens to be rescued and buildings to be searched will cause local Search and Rescue (SAR) personnel and resources to be overwhelmed. Local SAR facilities and resources may be impacted by the storm, rendering them inoperable or not fully capable of performing all SAR activities. SAR resources at the national level coordinate and provide life-saving and life-sustaining teams, resources, and operational coordination in the area affected by a hurricane when affected SAR personnel and resources become overwhelmed.
On-Scene Security and Protection	Evacuations, loss of power, sheltering, and damage to transportation systems all create law enforcement requirements during a hurricane. Law enforcement will be required to block roads, direct traffic, and patrol the evacuated area to notify citizens to leave. After the area has been evacuated, increased law enforcement patrols are needed to deter criminal activity in vacant buildings. Loss of power and damage from the hurricane will disable alarm systems and other security features of residential, commercial buildings, and critical infrastructure sites. Federal law enforcement resources may be required to augment territorial and commonwealth law enforcement and security personnel to provide relief to sustain operations during response and short-term recovery. Federal law enforcement protects the public and secures the affected area, potentially requiring coordination of resources across multiple locations.
Public Health and Medical Services	Prior to a hurricane, local, territorial, and commonwealth medical systems coordinate with the Department of Health and Human Services through the National Disaster Medical System to evacuate patients from medical facilities that are predicted to be impacted by the hurricane. After the hurricane passes, affected healthcare facilities that did not anticipate damage or loss of power may require additional emergency evacuations. After the storm passes and the members of the general population return to their homes, the highest number of injuries and illnesses occur from moving debris, exposure to untreated water, and completing home repairs. These injured and ill citizens may require temporary emergency medical care facilities if normal emergency facilities are damaged or closed. Federal support may be required during a hurricane response when territorial and commonwealth jurisdictions' resources are overwhelmed and they request Federal public health and medical support in preparation and response to a hurricane. Federal public health and medical support may include emergency medical care, patient evacuations (and return), drug distribution, health surveillance, and assessment of the health care system. Federal support is provided through national-level public health and medical support resources and nontraditional sources.
Public Information and Warning	In the immediate aftermath of a hurricane, the ability to deliver actionable messages to impacted communities will be subject to the degradation of communications infrastructure necessary to deliver public messaging. Damage to communication systems and loss of power may require emergency messaging through nontraditional sources (e.g., Facebook, Twitter, YouTube), but these messages must be de-conflicted if they are sent by multiple sources. Conflicting messaging will strain the ability for responders to establish two-way communications with the affected public. Guidance to the public sector concerning food, water, shelters, and so on will not be able to be validated until two-way lines of communication are established.
Public and Private Services and Resources	In the aftermath of a hurricane, private sector resources beyond those provided by existing government contracts may need to be identified. The affected population will require items including bottled water, meals, personal sanitary supplies, clothing, tarps, fuel, and generators. The Federal Government will be requested to coordinate the ordering, allocation, and distribution of resources and services resources from public- and private-sector sources in coordination with other local, state, tribal, territorial, and insular area governments. If requirements exceed the available resources, the Federal interagency may be required to identify and supply nontraditional forms of life-saving and life-sustaining resources (e.g., bulk water distribution). Federal requests for private-sector resources also require de-confliction with local, territorial, and commonwealth government contracts so that resources are not double-counted or incorrectly adjudicated.
Situational Assessment	Accurate and timely information from situational assessments must be available to allow for an effective response. A hurricane affects a large geographic area and all core capabilities, resulting in a wide

Core Capability	Projected Impact
	<p>spectrum of data that requires distillation and analysis to become decision-relevant information. The Federal Government, in partnership with the private sector, faith-based organizations, and nongovernmental organizations adheres to reporting requirements for agency-relevant information delivered to the NRCC, Regional Response Coordination Center (RRCC), National Operations Center (NOC) and other coordination and operation centers. The National Response Coordination Staff initiate and coordinate essential elements of information and critical information requests through established channels of reporting.</p> <p>Effective management and analysis of situational assessment information allows all response partners to disseminate reports to leadership and build situational understanding. Feedback from leadership regarding additional information requirements is processed to continue to further develop the COP.</p>
Infrastructure Systems	<p>Based on the size of the impacted area, the timeline for restoration of essential infrastructure will be unknown until the severity of the damage is assessed. High winds and flooding damage all types of infrastructure in the affected area. Assessment of critical information for stabilization and repair will require equipment, expertise, and resources that are available to perform the necessary repairs. A shortage of resources to conduct assessments of infrastructure areas may delay overall response actions. Private sector resources can require vetting credentials and identification of personnel, which will delay getting qualified individuals in the impact area to support infrastructure assessment and restoration. The size of the hurricane will cause nearby communities to be impacted by cascading effects and secondary effects on infrastructure. Essential systems (e.g., power, water, sanitation, food storage) required for life-saving and life-sustaining services will be the highest priority and may take resources away from the restoration of other sectors.</p>

Regional Considerations

The following describes the background, history and potential impacts of tropical cyclones to the Caribbean Area of FEMA Region 2. Background information contained is based on data obtained from the following work efforts:

- Puerto Rico State Profile
- US Virgin Islands State Profile
- The President's Long-Term Recovery Action Plan (January 1999)
- Building Performance Assessment Report, Hurricane Georges in Puerto Rico (March 1999)
- Hurricane Georges Assessment: Review of Hurricane Evacuation Studies Utilization and Information Dissemination (April 1999)
- Puerto Rico Hazard Mitigation Plan (1999)
- Puerto Rico Hazard Mitigation Plan (2011)
- Virgin Islands Territorial Hazard Mitigation Plan (2011)

Puerto Rico and U.S. Virgin Islands are vulnerable to tropical cyclones. This is due to their location in the Northeast Caribbean Basin, low lying coastal areas, and the location of large and densely concentrated population within the coastal areas.

In this case, Puerto Rico and U.S. Virgin Islands lie along the northeast boundary of the Caribbean Sea, and are exposed to different types of waves, such as wind waves, winter swell and tropical cyclone forced waves. Another challenge is the complex bathymetry across Puerto Rico and U.S. Virgin Islands as well as the large population density along the coastal areas. Irregular coastlines, steep bathymetry gradients and narrow shelf characterize the coastal morphology across the regional waters of Puerto Rico and U.S. Virgin Islands. In addition, tidal timing patterns can also set up the possibility for experiencing dangerous storm surges.

Currently, Caribbean islands such as Puerto Rico and the US Virgin Islands have limited guidance available to estimate the impacts of the tropical cyclone induced storm surge. State and federal emergency management use this limited information to plan the evacuation along coastlines when the islands are threatened by a tropical cyclone. NOAA/NWS and a group of universities are working very hard to develop a new high resolution mapping of potential storm surge threats for Puerto Rico and the U.S. Virgin Islands. In the near future, this new storm surge could replace or complement the actual low-resolution guidance of the NOAA's Sea Lake Overland Surges from Hurricanes (SLOSH) numerical model for Puerto Rico and the U.S. Virgin Islands.

Scenario development is based on the National Hurricane Program's Hurricane Evacuation Study Hazard Analysis methodology. Hurricanes are defined into five distinct, life safety threat scenarios. These are based on the categories of the Saffir-Simpson Hurricane Intensity Scale. Wind speeds and potential storm surge threats are developed using NOAA's Sea Lake Overland Surges from Hurricanes (SLOSH) numerical model. The meteorological parameters modeled that affect the storm surge heights include the tropical cyclone's intensity, measured by the storm-center sea-level pressure, the storm's track (path), forward speed, and radius of maximum winds. Exposure loss data is also based on the 100 and 500 year event as defined by published National Flood Insurance Rate Studies.

Below (including on the next page) are figures / maps of the surge flooding risk for Puerto Rico and the US Virgin Islands. They are based on the results of the SLOSH model simulating maximum surge value for a Category 5 defined hurricane on the Saffir-Simpson Scale during high tide. These are included only for "reference". SLOSH imagery/data for Puerto Rico and the US Virgin Islands needs to be updated. That update may occur in 2015 or later.

Figure A1-1:
Map of Surge Zones – Puerto Rico

Maximum Storm Tide, Category 5 Hurricane hitting at high tide

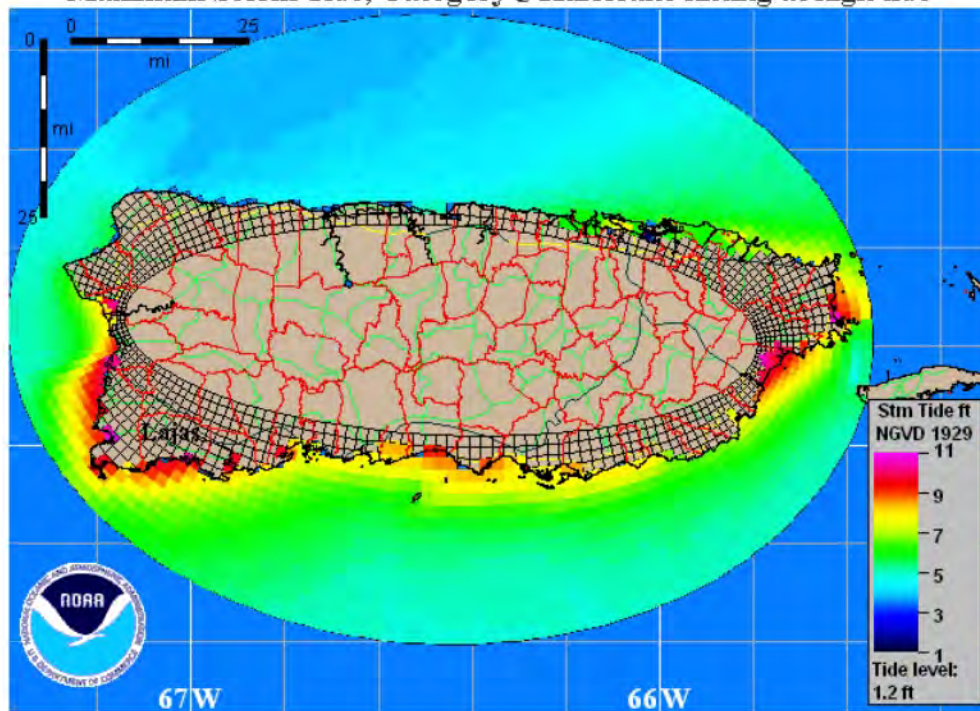
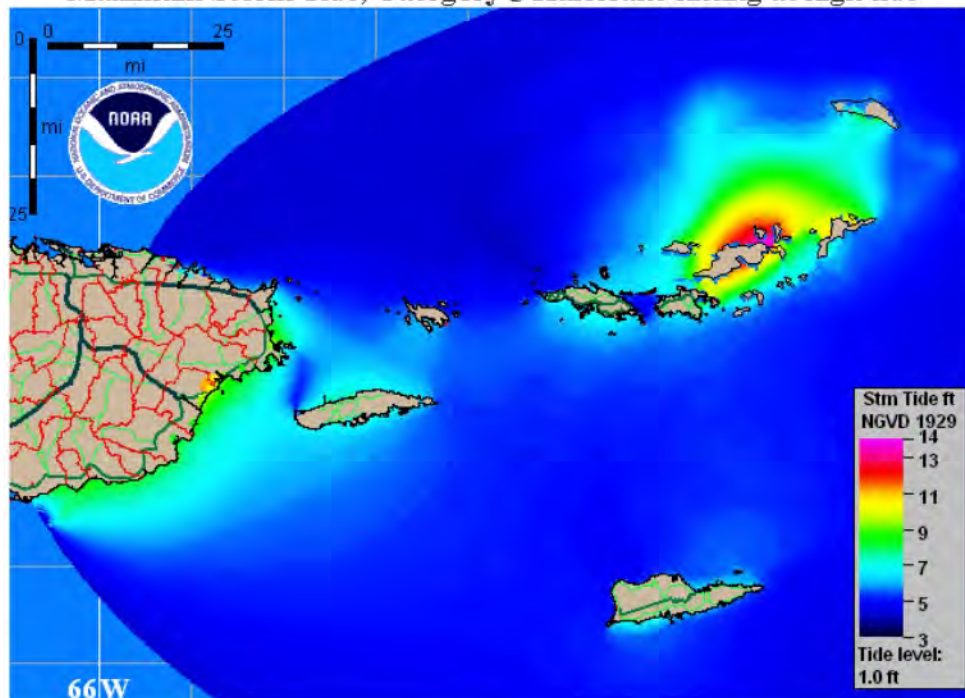


Figure A1-2:

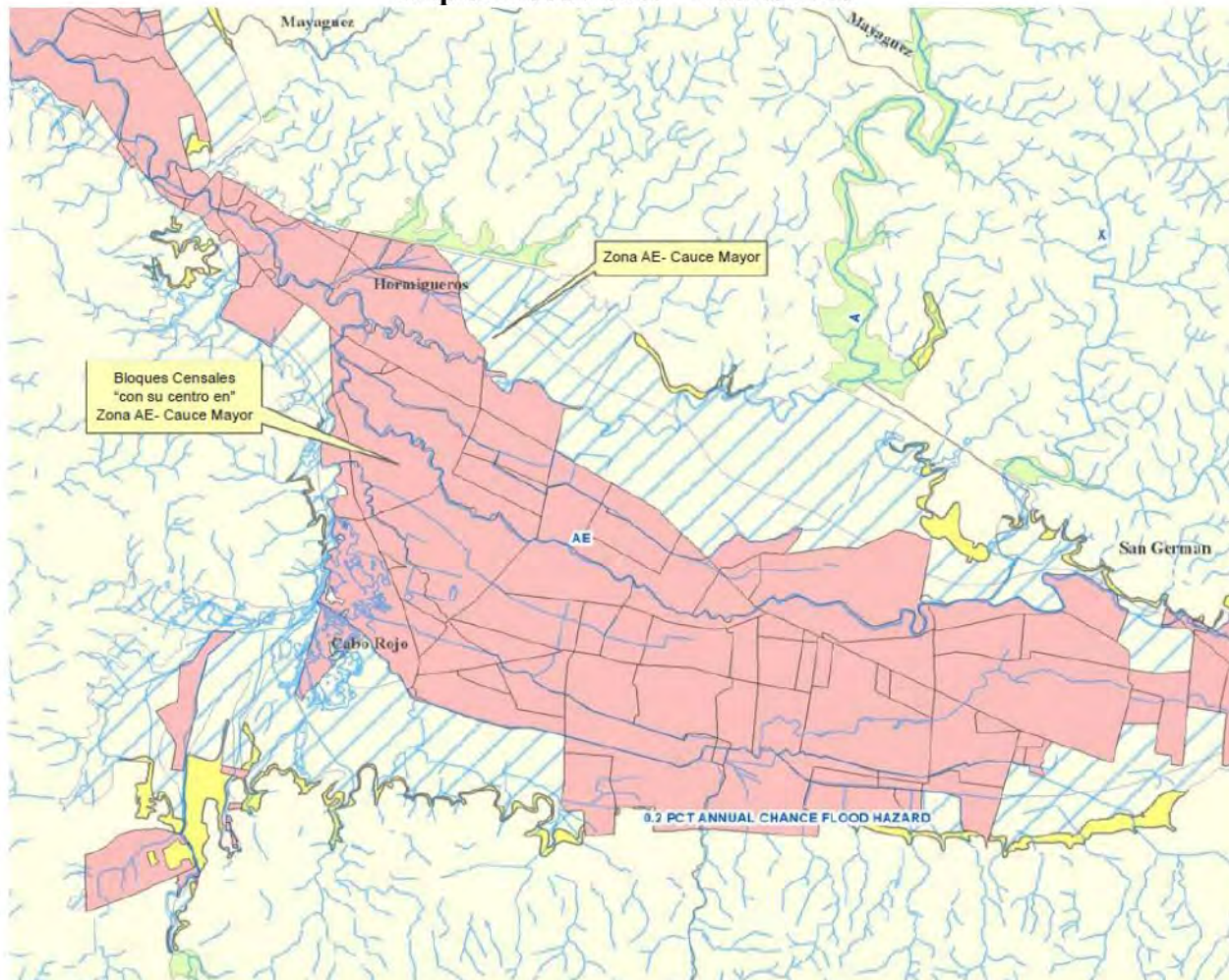
Map of Surge Zones – US Virgin Islands

Maximum Storm Tide, Category 5 Hurricane hitting at high tide



The graphic below is a sample of one of many flood zone maps available for Puerto Rico.

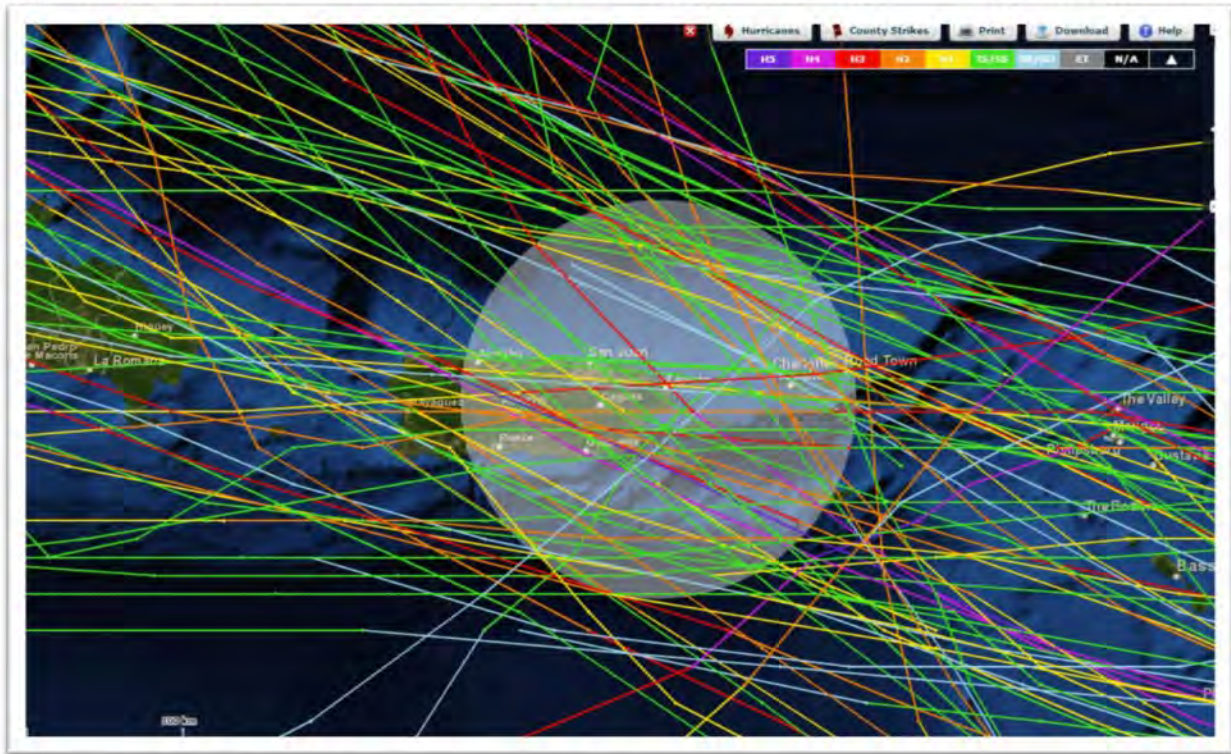
**Figure A1-3:
Map of Flood Zones – Puerto Rico**



For detailed versions of these images (and others in this document), contact the Geographic Information Unit of the Situational Awareness Section of the RRCC.

Puerto Rico and U.S. Virgin Islands have an active tropical storm and hurricanes history. These islands are characterized for having large population density along coastal areas and important infrastructure in the coastal areas, increasing their vulnerability to tropical cyclones. Numerous hurricanes have passed near or through the islands as shown in the map below.

Figure A1-4: Historical Hurricane Tracks Affecting Puerto Rico/US Virgin Islands Area



(Source: NOAA-Coastal Science Center. Key: Hashed Line-Unknown Type, Green-Tropical or Subtropical Storm, Yellow-Category 1, Orange-Category 2, Red-Category 3, Magenta-Category 4, Purple-Category 5)

The following table lists the number of recorded storms affecting Puerto Rico and U.S. Virgin Islands by month.

Table A1-4: Number of Recorded Storms Affecting Puerto Rico and US Virgin Islands, By Month. NOAA Historical Hurricane Data from 1842-2013.

Month	Puerto Rico	US Virgin Islands
June	0	0
July	5	5
August	18	21
September	23	23
October	3	11
November	3	4

Hurricanes in the northeast Caribbean region are historically considered a high probability event. This can be seen in the following table (Table A1-5) identifying the mean return hurricane periods for the Caribbean Area by the identified five hurricane threat scenarios.

Table A1-5: Mean Hurricane Return Periods – Caribbean Area. Considering 171 year (1842-2013) of data for hurricanes passing near or through Puerto Rico and U.S. Virgin Islands

Return Period in Years for Hurricanes		
Category	Wind Speed	Return Period
1	74-95 mph	9.5 years
2	96-110 mph	8.2 years
3	111-130 mph	12.3 years
4	131-155 mph	24.6 years
5	> 155 mph	86.0 years

On the other hand, they are also designated a high impact event with widespread impacts based on the storm's intensity, size, duration of event, rainfall impacts, area impacted and population evacuated or displaced. The coastal areas of Region II contain large and densely concentrated population centers. As a result, a great deal of residential, commercial and industrial property and land use is exposed to losses from flooding (storm tide and freshwater) and wind. Below is a sample of a series of flood maps for the various zones within Puerto Rico outlining the flood hazard areas across the island. These areas should be of particular concern during a hurricane.

**Figure A1-5
Flood Inundation Maps from Puerto Rico for Zone AE**



Below is tabular data of those individuals and homes within the shaded areas of the flood maps. Each zone is listed with corresponding amount of people then the number of housing units they occupy. This may help in estimating response efforts/resources needed in an area threatened or affected by floodwaters.

Table A1-6: Puerto Rico Housing and Population in Flood Zones

Flood Zone	Estimated Population	Estimated Housing Units
Zone AE (Floodway)	43,861	17,101
Zone AE	320,027	124,033
Zone VE	11,838	6,897
Zone A	50,455	20,165
Zone AO	32,720	14,432
Source: Puerto Rico Planning Board		

Critical facilities also follow a similar pattern, with significant numbers exposed to flooding. This will prove problematic in providing essential services during and following a hurricane incident.

A major or catastrophic hurricane could impact up to 4 million residents. The impacts/effects could disrupt transportation across the entire Caribbean area. The tourist populations in Puerto Rico and the US Virgin Islands may also require additional mass care if they were stranded in the area right before the hurricane struck. At best, the region would suffer economic losses from tourists or seasonal visitors not being able to complete their vacation plans.

Recovery from a hurricane's aftermath would be impacted by the extent of power outages and the availability of fuel, which could lead to delay in services, travel delays and/or disruption in air and ground transportation. Damage or disruption may also take place at the port and marine facilities having commercial and/or military importance.

Tab 2 to Appendix 1: Situational Assessment

Critical Information Requirements and Essential Elements of Information may be found in the Base Plan within the Region II All Hazards Plan. However, tropical cyclones themselves present a unique list of information products produced by the National Hurricane Center and other stakeholders.

Hurricane Situational Assessment Objective: The RRCC Situational Awareness Section, with the Hurricane Liaison Team, will use products/tools to enhance situational awareness of potential and assessment of actual impacts. The Situational Awareness Section will coordinate with the Planning Support Section to ensure the appropriate products and tools are employed in the adaptation of deliberate plans and the development of adaptive plans (Regional Response Support Plans, Crisis Action Plans etc.). (Note this objective is revised from the All-Hazards Plan and is specific only to hurricanes and other tropical cyclones.)

Concept of Operations for Situational Assessment

The Regional Watch Center and/or National Hurricane Center will disseminate information about threats in the Caribbean area of responsibility. Upon notification of a threat, coordination calls should begin with Whole Community stakeholders that include the National Weather Service-San Juan, Federal ESF's, Puerto Rico Emergency Management Agency, Virgin Islands Territorial Emergency Management Agency, and private sector partners.

The RRCC Situational Awareness Section has the overall responsibility to inform leadership of changes in conditions that may affect our ability to respond. The section is also in charge of facilitating the flow of information between Senior Leadership and operational personnel in the field. This is accomplished through briefings, conference calls, and inputs into the Regional Support Plan gathered from the stakeholders. The situational assessment is ultimately gathered from face-to-face interactions via State Liaisons and the IMATs. As the threat increases and response actions are initiated, the IMAT should provide situational assessment directly from on-scene sources. Information is also gathered from our ESF partners participating in the response effort. The National Hurricane Center provides a wealth of products and information on tropical cyclone intensity, forecast track, cascading effects, etc. A large portion of this Tab explains, in depth, those products, when they can be best used, and when they are available. Familiarization with the extent of NHC products will aid in presenting the most accurate information leading to the best decisions that can be made.

Situational awareness, post-landfall including the Recovery phase, is built through various programs like the Disaster Survivor Assistance, Individual Assistance, and Public Assistance. This network for information gathering captures details of response and recovery efforts across the area of operation and then reports information back to the Joint Field Office (and ultimately the Region and HQ).

The following graphic (Table A1-7) shows tropical cyclones products and tools according to when they are developed or used. As described below, they include Hurricane Evacuation Study products developed by FEMA, the USACE and/or NOAA, as well as weather and forecasting

products from the National Hurricane Center and the National Weather Center. Note the phases when these products and tools are used in the table below.

The remainder of this section indicates potential actions during these phases and entities responsible to perform them.

Table A1-7: Availability of Federal Tropical Cyclone Products through Time

Normal Operations	1b Elevated Threat		1c Credible Threat			2a-3a Activities
Year Round	Hurricane Season	120-72hr	72-48hr	48-36hr	36hr-Landfall	Post Landfall
HES products (surge MOMs, surge maps, evacuation zones, clearance times, other planning data) coastal flood loss atlas						
			USACE disaster impact model output			
				HAZUS output		
	Tropical weather outlook					
	Public advisory Forecast discussion Wind speed probabilities Track forecast cone					
			Wind timing via Hurrevac			Extreme wind warnings
			Surge MEOWs			Tide gages USGS
			QPF rainfall forecasts			Flash flood warnings
				River forecasts	Flood outlooks	River flood warnings
				TS/hurricane watches	TS/hurricane warnings	
				Hurricane local statements Storm surge probabilities Potential storm surge flooding maps		
					Tornado watches and warnings	
<div><div></div><div>Time</div><div></div></div>						

Hurricane Evacuation Study Products

Although widely used in the continental United States, these products are readily available for the Caribbean. They are here for reference.

Evacuation Zones: Designed to identify high risk areas based on modeling created by Local, State, and Federal EMA representatives to move people out of hurricane hazard vulnerable areas.

Clearance Time: An evacuation time estimate that begin when the first evacuating vehicle enters the road network, and ends when the last vehicle reaches an assumed point of safety. They include travel time and waiting in congestion and is mainly driven by bottlenecks. Evacuation clearance time is determined by a number of factors including the number of residents to be evacuated, the expected behavior of those residents, roadway network characteristics, and hurricane shelter availability.

Planning Data: Vulnerability, shelter, and population data is produced through the multiple analyses of the HES that can be used for planning.

HAZUS Coastal Flood Loss Atlas (CFLA): A dictionary of possible coastal flood conditions and losses to support pre- and post- hurricane landfall strategies. The CFLA provides a County-by-county maximum potential flooding conditions for Category 1-5 hurricanes based on SLOSH MOMs and a County-by-county HAZUS loss estimates based on SLOSH MOMs.

National Hurricane Center Products

Tropical Weather Outlook: Is a discussion of significant areas of disturbed weather and their potential for development out to 48 hours. It includes (when possible) a nontechnical explanation of the meteorology behind the outlook. The Outlook also provides the chance of development (in percentage, from 0 to 100 in ten-percent increments) of each disturbance discussed in the outlook.

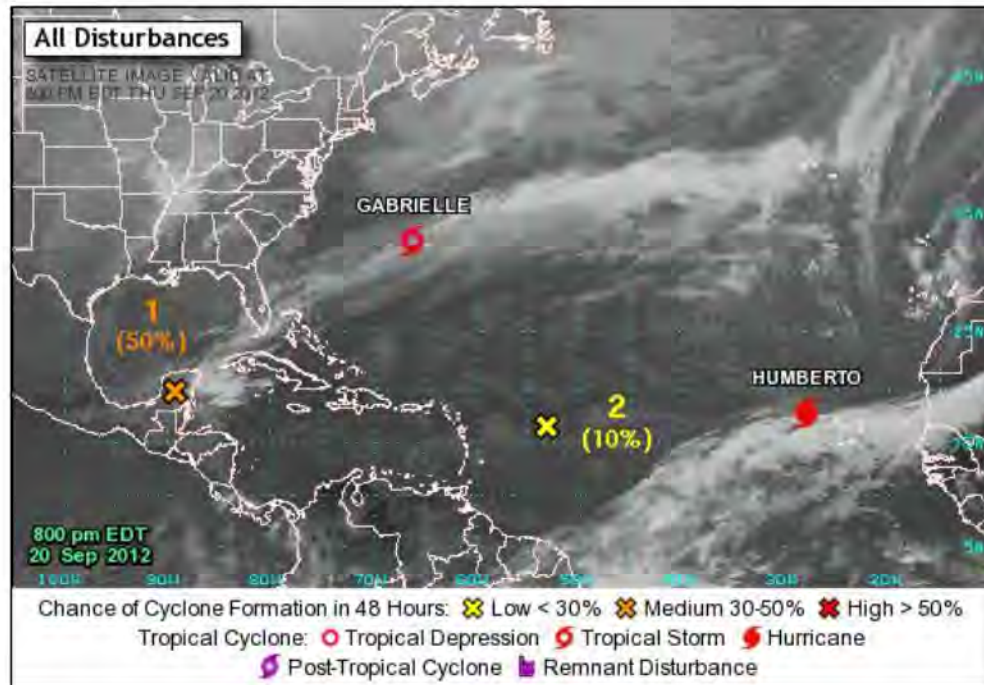
The NHC issues Special Tropical Weather Outlooks when important changes with areas of disturbed weather need to be conveyed before the next scheduled release of the Tropical Weather Outlook (TWO). The Special TWO can also be used on a recurring basis for disturbances outside of the normal hurricane season when routine TWOs are not issued. Special TWOs are issued under the same product headers as the TWO and they will supersede the previously issued regular or special TWO.

Please note the (Special) Tropical Weather Outlook has a companion Graphical Tropical Weather Outlook that will be updated at the same time.

Tropical Weather Outlooks also include a brief description of any tropical or subtropical cyclones in the region. During hurricane season, Tropical Weather Outlooks are issued four times a day. Atlantic outlooks are issued at 2:00 AM EDT, 8:00 AM EDT, 2:00 PM EDT, and 8:00 PM EDT.

Graphical Tropical Weather Outlook: is intended to be a visual companion product to the text TWO. The NHC produces a graphical TWO four times daily in both the Atlantic and Pacific basins.

Figure A1-6. Graphical Tropical Weather Outlook: 48 Hour and Five Day



Public Advisory: Contains a list of all current watches and warnings on a tropical or subtropical cyclone. It also gives the cyclone position in terms of latitude and longitude coordinates and distance from a selected land point or island, as well as the current motion. The advisory includes the maximum sustained winds in miles per hour and the estimated or measured minimum central pressure in millibars and inches. The advisory may also include information on potential storm tides, rainfall or tornadoes associated with the cyclone, as well as any pertinent weather observations.

Public advisories are issued for all Atlantic and eastern Pacific tropical or subtropical cyclones.

Public advisories for Atlantic tropical cyclones are normally issued every six hours at 5:00 AM EDT, 11:00 AM EDT, 5:00 PM EDT, and 11:00 PM EDT (or 4:00 AM EST, 10:00 AM EST, 4:00 PM EST, and 10:00 PM EST).

Intermediate public advisories may be issued every 3 hours when coastal watches or warnings are in effect, and every 2 hours when coastal watches or warnings are in effect and land-based radars have identified a reliable storm center. Additionally, special public advisories may be issued at any time due to significant changes in warnings or in the cyclone.

Forecast Discussion: explains the reasoning for the analysis and forecast of a tropical or subtropical cyclone. It includes a table of the forecast track and intensity. Tropical Cyclone

Discussions are issued on all Atlantic and eastern Pacific tropical and subtropical cyclones every six hours. Special tropical cyclone discussions may be issued at any time due to significant changes in warnings or in the cyclone.

Tropical Cyclone Discussions for Atlantic tropical cyclones are normally issued every six hours at 5:00 AM EDT, 11:00 AM EDT, 5:00 PM EDT, and 11:00 PM EDT (or 4:00 AM EST, 10:00 AM EST, 4:00 PM EST, and 10:00 PM EST).

Wind Speed Probabilities: provides probabilities, in percent, of sustained wind speeds equal to or exceeding 34-, 50-, and 64-knot wind speed thresholds. These wind speed probabilities are based on the track, intensity, and wind structure forecasts and uncertainties from the National Hurricane Center and are computed for coastal and inland cities as well as offshore locations (e.g., buoys).

These text products are issued on all Atlantic and eastern Pacific tropical and subtropical cyclones every six hours at 0300, 0900, 1500, and 2100 UTC (learn about UTC time). Special tropical cyclone surface wind speed probabilities may be issued at any time due to significant changes in warnings or in the cyclone.

Cumulative – These values tell you the overall probability the event will occur sometime during the specified cumulative forecast period (0-6 hours, 0-12, 0-18, etc.) at each specific point. These values are provided in both the text and graphical formats. In the text product, the numbers are in parentheses. The graphical products depict only cumulative values. The text product is transmitted to users via normal NWS dissemination methods. The graphic is available on the internet from the National Hurricane Center and the Central Pacific Hurricane Center.

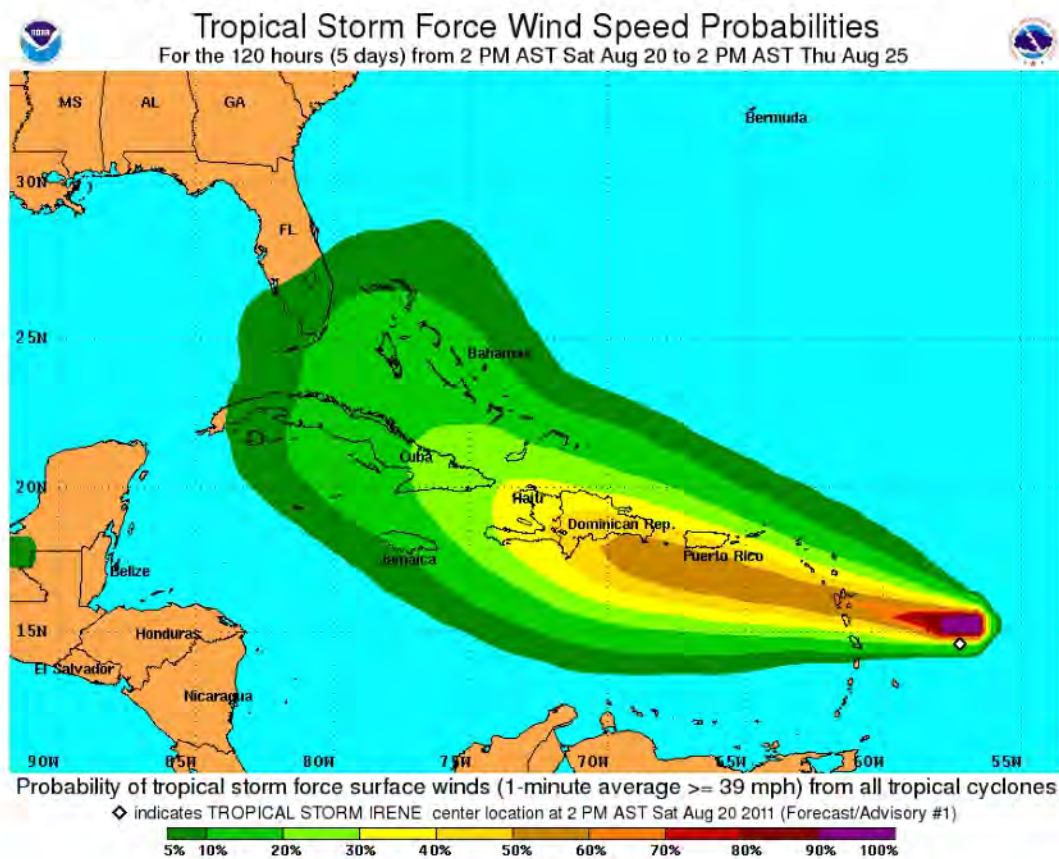
Individual – These values tell you the probability the event will start sometime during the specified individual forecast period (0 - 6 hours, 6-12, 12-18, etc.) at each specific point. These periods are individual, since nothing that occurs before or after the specified period affects the probability. These values are provided only in the text NHC product. They are the values outside of the parentheses (cumulative values are in the parentheses). The term "individual" also makes a clear distinction from the cumulative period values for users.

Incremental – These values tell you the probability the event will occur sometime during the specified forecast period (0 - 6 hours, 6-12, 12-18, etc.) at each specific point. These values are incremental since they can increase in value by accounting for the possibility the event might start in an earlier period and still be occurring in the specified period.

Wind Speed Probabilities Graphic: are created for each forecast/advisory package, but not all of these values are distributed or placed on the Internet. For each probability value, the event in question is a sustained (one-minute average) surface (10 m) wind speed of at least a particular threshold value (34 kt...39 mph, 50 kt...58 mph or 64 kt...74 mph) at a specific location.

Graphics for Atlantic tropical cyclones are normally issued every six hours at 5:00 AM EDT, 11:00 AM EDT, 5:00 PM EDT, and 11:00 PM EDT (or 4:00 AM EST, 10:00 AM EST, 4:00 PM EST, and 10:00 PM EST).

Figure A1-7. Tropical Storm Force Wind Speed Probabilities



Track Forecast and Cone: shows an approximate representation of coastal areas under a hurricane warning (red), hurricane watch (pink), tropical storm warning (blue) and tropical storm watch (yellow). The orange circle indicates the current position of the center of the tropical cyclone. The black line and dots show the National Hurricane Center (NHC) forecast track of the center at the times indicated. The dot indicating the forecast center location will be black if the cyclone is forecast to be tropical and will be white with a black outline if the cyclone is forecast to be extra tropical.

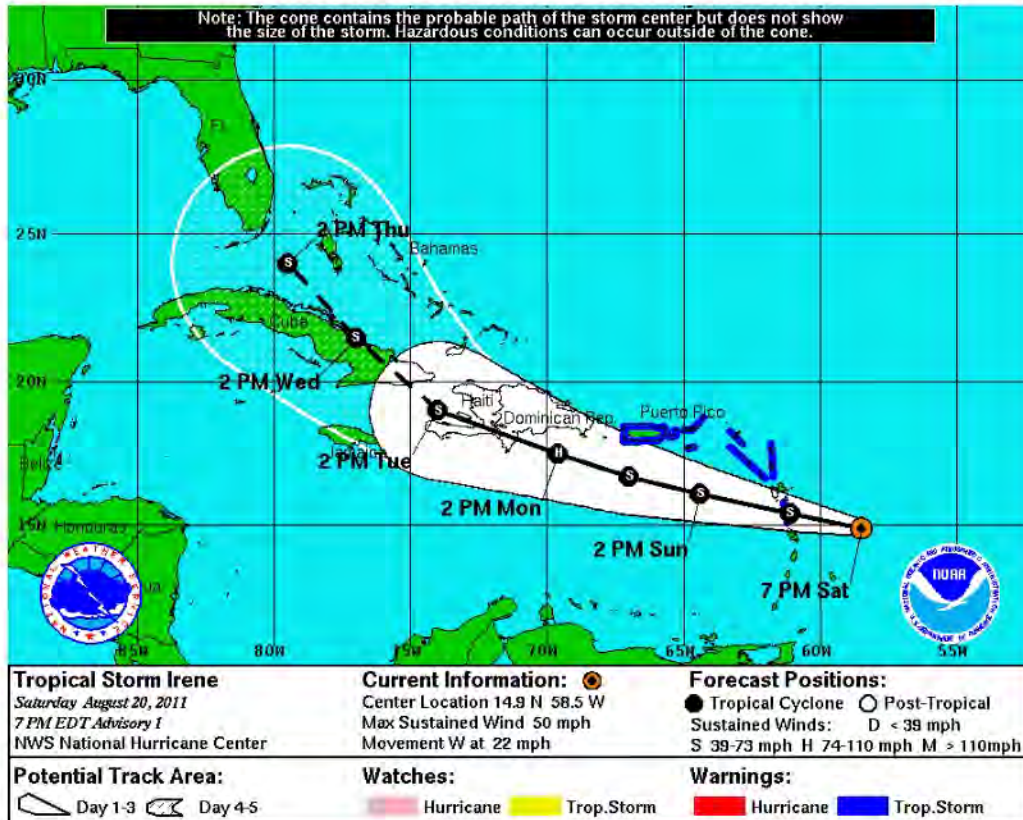
NHC tropical cyclone forecast tracks can be in error. This forecast uncertainty is conveyed by the track forecast "cone", the solid white and stippled white areas in the graphic. The solid white area depicts the track forecast uncertainty for days 1-3 of the forecast, while the stippled area depicts the uncertainty on days 4-5. Historical data indicate that the entire 5-day path of the center of the tropical cyclone will remain within the cone about 60-70% of the time. To form the cone, a set of imaginary circles are placed along the forecast track at the 12, 24, 36, 48, 72, 96, and 120 h positions, where the size of each circle is set so that it encloses 67% of the previous five years official forecast errors. The cone is then formed by smoothly connecting the area swept out by the set of circles.

It is also important to realize that a tropical cyclone is not a point. Their effects can span many hundreds of miles from the center. The area experiencing hurricane force (one-minute average

wind speeds of at least 74 mph) and tropical storm force (one-minute average wind speeds of 39-73 mph) winds can extend well beyond the white areas shown enclosing the most likely track area of the center.

Graphics for Atlantic tropical cyclones are normally issued every six hours at 5:00 AM EDT, 11:00 AM EDT, 5:00 PM EDT, and 11:00 PM EDT (or 4:00 AM EST, 10:00 AM EST, 4:00 PM EST, and 10:00 PM EST).

Figure A1-8. Five-Day Track Forecast Cone



Tropical Storm Watch: An announcement that sustained winds of 34 to 63 knots (39 to 73 mph or 63 to 118 km/hr) are possible within the specified area within 48 hours in association with a tropical, subtropical, or post-tropical cyclone.

Hurricane Watch: An announcement that sustained winds of 64 knots (74 mph or 119 km/hr) or higher are possible within the specified area in association with a tropical, subtropical, or post-tropical cyclone. Because hurricane preparedness activities become difficult once winds reach tropical storm force, the hurricane watch is issued 48 hours in advance of the anticipated onset of tropical storm force winds.

Tropical Storm Warning: An announcement that sustained winds of 34 to 63 knots (39 to 73 mph or 63 to 118 km/hr) are expected somewhere within the specified area within 36 hours in association with a tropical, subtropical, or post-tropical cyclone.

Tornado Warning: A warning issued to warn the public of an existing, imminent or suspected tornado. A tornado is a violently rotating column of air, usually pendant to a thunderstorm, with circulation reaching the ground.

Extreme Wind Warning: Extreme sustained winds of a major hurricane (115 mph or greater), usually associated with the eye wall, are expected to begin within an hour.

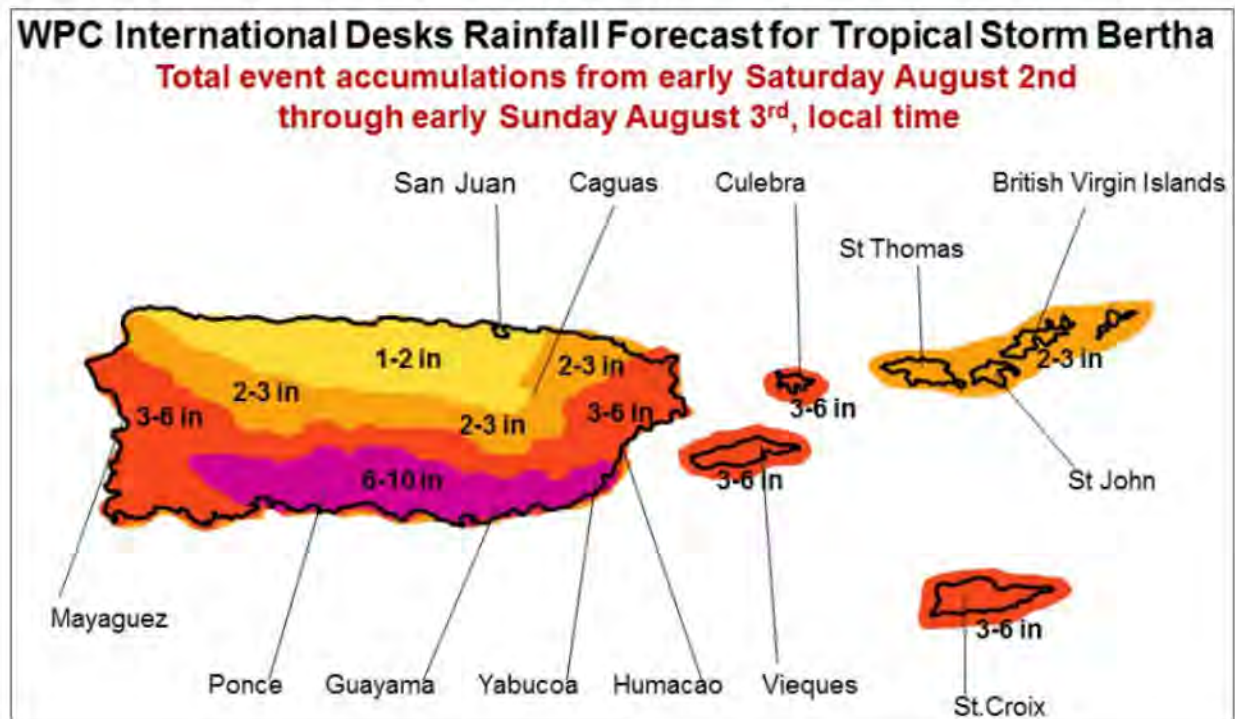
Flash Flood Warning: is issued to warn the public that flash flooding is imminent or in progress. A flash flood is a flood which is caused by heavy or excessive rainfall in a short period of time, generally less than 6 hours. Also, a dam failure can cause a flash flood.

River Flood Warning: is issued when the river stage at a "forecast point" is expected to reach or exceed bankfull (flood stage), causing the inundation of a normally dry area.

Flood Outlook: is intended to provide a general outlook for significant river flooding. It is not intended to depict all areas of minor flooding or small-scale events such as localized flooding and/or flash flooding.

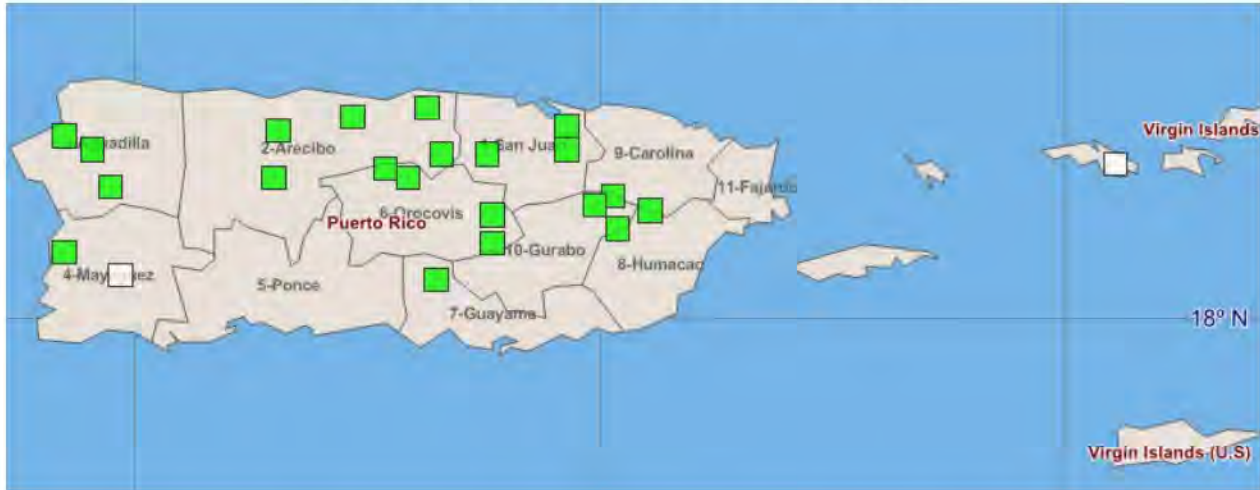
Rainfall Forecasts: Unlike the continental US, the NWS's Weather Prediction Center (WPC) does not compile generalized rainfall forecasts regularly for Puerto Rico and the Virgin Islands. For some events, however, it does provide special, one-time-only, total rainfall forecast for some events, such as it did for Bertha as shown below (Figure A1-10).

Figure A1-10



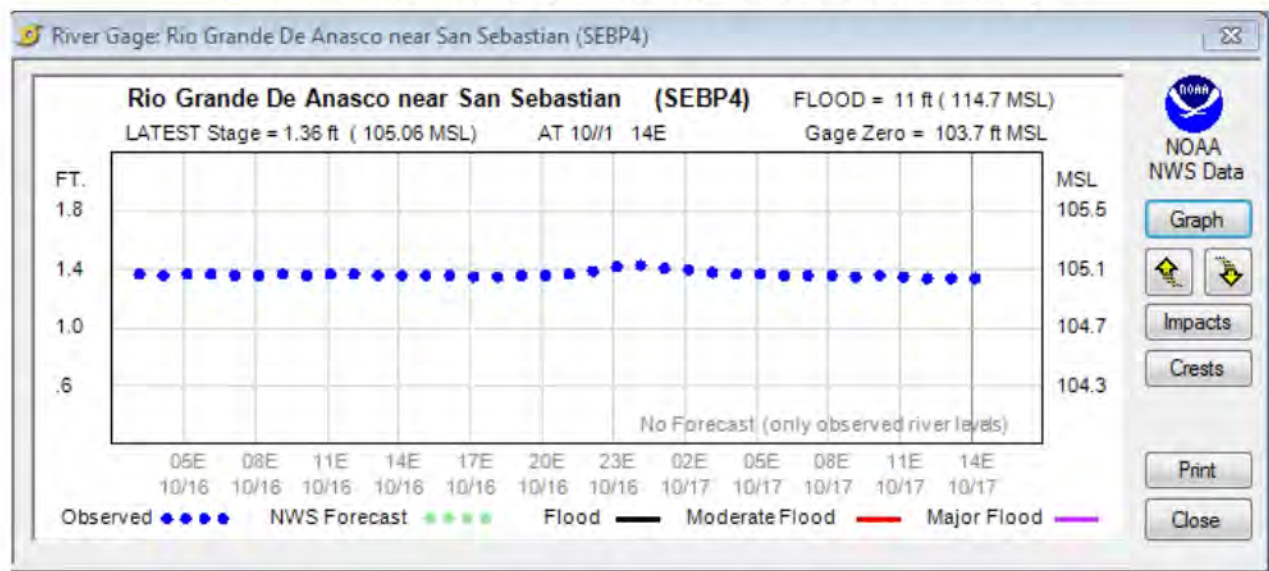
River Gage Data: NOAA's Advanced Hydrologic Prediction Service (AHPS) provides river gage data that are updated as often as every hour and can be obtained through HURREVAC. As indicated in Figure A1-11a, the stations in Puerto Rico are marked by squares indicating they provide data on **observed** levels only. They do **not** provide forecast data. The color of the squares indicates the river levels: green for below flood stage, orange for minor flooding, red for moderate flooding, and purple for major flooding. White indicates old or outdated data (or no data).

Figure A1-11a. River Gage Location Map



Stations with observations-only data typically provide 36 hours of past water levels. They also indicate the water level for flood stage. In the sample in Figure A1-11b, current river level is about 1.4 feet, about 9.6 feet below flood level of 11 feet.

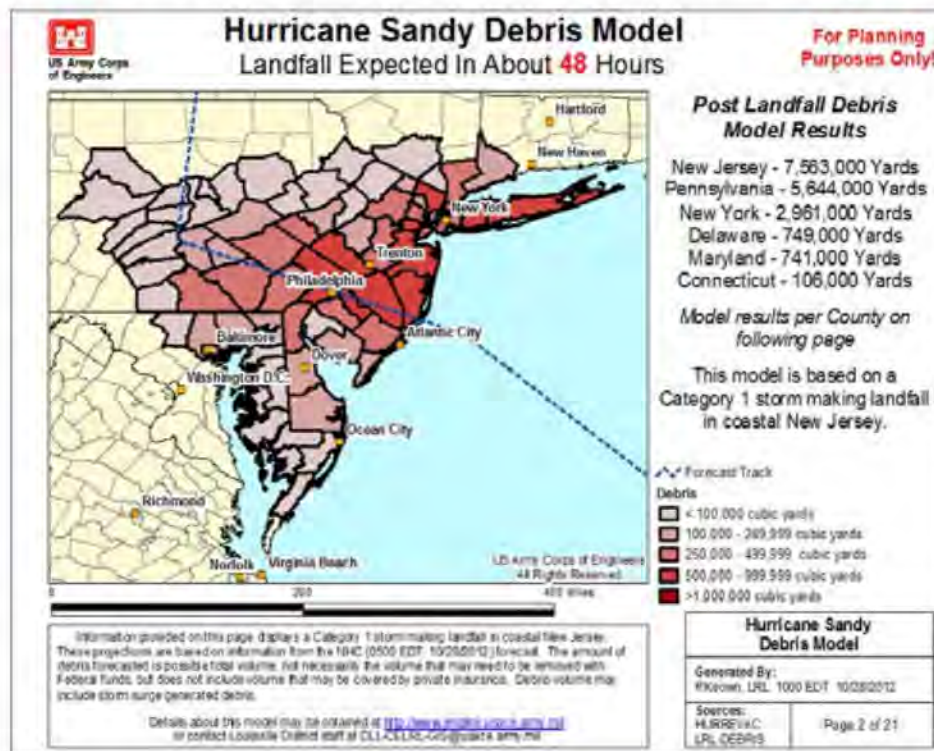
Figure A1-11b. River Gage Observed Water Level Data Sample



Additional Modeling Efforts

Disaster Impact Models: Through the use of geospatial tools, the USACE provides estimates of possible debris volumes, needs for commodities, number of people and households likely within hurricane force winds, and possible temporary roofing and temporary housing needs starting about three days prior to a forecasted hurricane landfall. Model estimates are developed and posted online at [www.engl ink.usace.army.mil](http://www engl ink.usace.army.mil). See Figure A1-12 for sample results for its Debris Model for Hurricane Sandy with landfall expected in about 48 hours.

Figure A1-12. USACE Disaster Impact Model: Debris Model Sample Output



Modeling Task Force (MOTF): The FEMA MOTF is a group of modeling and risk analyst experts that may be activated by the FEMA in support of disaster response operations. The group consists of individuals with experience in multi-hazard loss modeling and impact assessments, including hurricanes. The MOTF coordinates hazard and modeling information from a variety of sources, including other Federal agencies, universities, the National Labs, and State and local agencies, to develop consensus for best estimates of impacts before, during, and after events. The MOTF integrates observed information throughout disasters to “ground-truth,” verify, and enhance impact assessments.

National Hurricane Program

This program provides a critical set of emergency management tools and information to local, state and Federal government agencies to support their decisions in response to the safe evacuation and mass care of the threatened coastal population before the arrival of a major

Hurricane Liaison Team

The Hurricane Liaison Team (HLT) is one of the eight components of the NHP described above. As its name suggests, it is a team that acts as a liaison for hurricanes. The mission of the HLT is to support hurricane response operations and decision-making by local, state and federal officials through the rapid and accurate exchange of information between the National Hurricane Center (NHC), the National Weather Service (NWS) and the emergency management community.

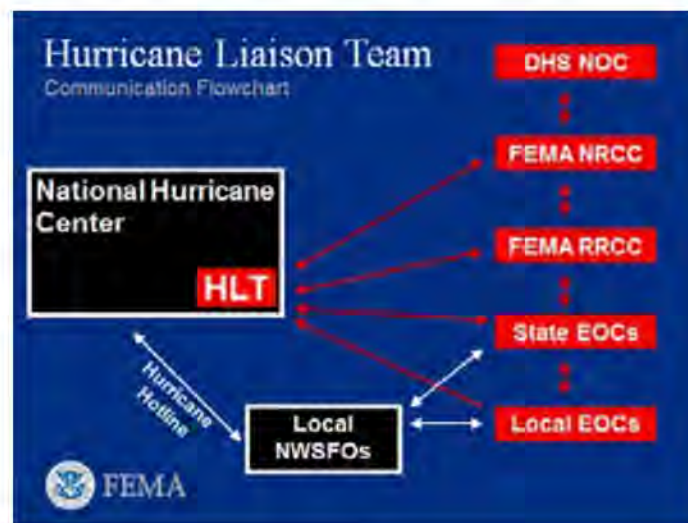
The Team is composed of the FEMA NHP regional program manager, hurricane specialists, and FEMA Reservist personnel. It is led by a fulltime FEMA Team manager detailed year-round at the NHC.

It acts as a liaison between the NWS and state and local emergency managers during the approach of threatening tropical cyclones. It does this to provide early and directly tailored information and guidance to the emergency managers on potential impending evacuation situations.

The HLT, activated and deployed to the NHC and the Regional Response Coordination Center (RRCC), gathers and receives real-time information, data, analysis and forecasts from the NHC and other NWS services. It also receives situation reports, issues, and concerns from the emergency management community to share as appropriate with the NHC and other NWS offices and centers.

It maintains open lines of communication among the NHC and appropriate Federal, State and local officials about the progress and threat level of the storm. In order to perform its liaison function among tropical cyclone forecasters, other NWS offices, and the national emergency management community, the HLT interacts and exchanges information with all of the organizations depicted in Figure A1-14 below.

Figure A1-14. Hurricane Liaison Team Communication Flowchart



Tropical systems pose multiple threats including wind, storm surge, inland flooding and tornado activity. Therefore, it is essential that the various centers of the NWS are included in information exchanges to ensure the emergency management community has a complete picture of the potential impacts and can take the necessary preparatory actions.

Accordingly, a variety of NWS participants at the National, Regional and local levels are relied upon to provide ongoing information and analysis. The HLT assists the NHC and the emergency management community by bringing all the participants together.

The HLT establishes and facilitates video/teleconferences with the NHC/NWS, FEMA and other Federal agencies, and State Emergency Operations Centers (EOCs). It also responds to emergency management questions and concerns.

Region II Hurricane SOP

Region II has *Hurricane Liaison Team Activation Standard Operating Procedure (SOP)* that was finalized in March 2013. This SOP provides a checklist for responsibilities and tasks to be reviewed and/or performed immediately before, during, and after an activation of the Regional Response Coordination Center (RRCC). The focus of this document is to capture actions performed by those assigned to the:

- (a) Regional Team Lead at the National Hurricane Center, and
- (b) Regional Risk Analyst assigned to the RRCC.

An updated May 2014 draft of this *SOP* includes:

- Sample Storm Information Reports, including a storm summary report generated by HURREVAC. (Appendix A)
- A Task Schedule Template for tasks, including consolidated coordination calls, to be made after new NHC Forecast Advisories are issued. (Appendix B)
- A Decision Support Guidance Template for the 120 hours before the onset of tropical storm force winds. It includes sources of information (Appendix C).

For a copy of this draft SOP with its Appendices, contact the Regional Hurricane Program Manager.

Actions by Phase and ESF

Actions listed below are provided within the context of response phases and the staff/personnel responsible to preform them. They are potential actions to be taken; the list is suggestive and not all-inclusive.

Phase 1a – Monitoring / Normal Operations

End State: Information collection, analysis, and dissemination systems have been developed in accordance with existing plans.

ESF-5:

- Develop Information Collection Plan (ICP) and validate against EEIs/CIRs identified in the Region II All Hazards Plan.
- Operational checks of RRCC information-sharing system with State, Incident Management Assistance Teams (IMAT), and Federal partners at intervals determined by the RWC;
- Recurring training and exercises with personnel;
- Coordinate updating data sets required by the RRCC to develop the COP (e.g., current Department of Homeland Security [DHS] Homeland Security Infrastructure Program Gold critical infrastructure and key resources [CIKR] data sets);
- Coordinate geographic information system (GIS)-based situational assessment data with FEMA divisions to update their needs in all phases of an incident;
- Research and coordinate additional information sources that build portions of the COP; and;
- Provide pre-operational assessments for potential impacts of a tropical cyclone incident.

Phase 1b – Elevated Threat

End State: Existing information collection, analysis, and dissemination systems have been tested and updated accordingly. Documentation is produced and disseminated as necessary.

ESF-5

- Coordinate with Regional GIS personnel to identify potential software based modeling programs, define the desired modeling outputs, and initialize modeling efforts. If the incident has been addressed in deliberate planning, utilize any deliberate planning modeling products for initial impact estimates.
- Examine the Information Collection Plan (ICP), evaluate the identified EEIs against the actual incident, validate the CIRs with RRCC senior leadership, and modify as needed.
- Develop an input and reporting/products schedule, determine the reporting platforms for posting situation reports (WebEOC, Homeland Security Information Network [HSIN], etc.), and provide reporting schedule and product posting locations to external and internal stakeholders.
- Capture situational awareness metrics from key private sector partners are captured within 12 hours of RRCC/NRCS activation
- As ESFs are activated and deployed to the Regional Repose Coordination Center, (RRCC), the Situation Unit will provide each ESF lead with the EEIs/CIRs relevant to the incident that are being tracked. The ESF leads will be responsible for providing the Situation Unit with those EEIs/CIRs through the reporting mechanisms/times established by the Situation Unit.
- Utilize modeling, initial aerial assessments from the Interagency Remote Sensing Coordination Cell (IRSCC), AIR reports, and LNO information to continue the COP build out, refine situation reports, and narrow the analysis efforts (continue through all phases).

ESF-6

- Coordinate with the Regional Disability Integration Specialist (RDIS) or the RRCC Disability Integration Coordination Advisor for identification of functional needs populations/ communities/organizations within the impacted areas for both identifying support requirements and local survivor capabilities (continue through all phases).

ESF-11

- Query Puerto Rico and US Virgin Islands for information on available food inventories.

ESF-15

- Monitor social media and public media sources for EEIs and incident information and work with ESFs, Other Federal Agencies (OFAs), SMEs, and Risk Analysts to validate as possible (continue through all phases).

Phase 1c – Credible Threat

End State: Information collection, analysis, and dissemination systems have been coordinated across public, private, and nongovernmental sectors, as appropriate. Documentation is produced and disseminated as necessary.

All ESFs

- Conduct analysis of plan EEIs/CIRs and provide to RRCC Situation Awareness Section.
- Identify incident-specific EEIs and CIRs.
- Begin collecting and reporting EEI/CIR information.
- Continue capturing EEIs/CIRs per the validated ICP. As Liaison Officers begin arriving in impacted state(s), maintain communications and gather EEIs/CIRs from LNOs. Coordinate with LNOs to acquire initial State reports if they have not been made available before.

ESF-3

- Develop GIS Data Models from L-72 to L+24 on expected damages.
- Provide commodity teams to track commodities purchased by USACE or other agencies.

ESF-5

- *SAS:* Coordinate with GIS and the National Remote Sensing Center (NRSC) for the activation of the IRSCC and begin identifying a prioritized list of CIKR facilities/systems for aerial assessment.
- *SAS:* Identify and activate appropriate subject matter experts (SMEs) to conduct risk analysis in order to ensure safe deployment of Federal and contracted assets (e.g. Hurricane Liaison Team to provide guidance regarding surge inundation and expected time of flood waters receding).

Phase 2a – Immediate Response

End State: Preliminary information about the incident has been collected from all available sources. An initial situational assessment of the incident has been performed to determine the scope of Federal support.

ESF-1

- Ascertain status of transportation infrastructure: airports, seaports, roadways, bridges, tunnels, etc.

ESF-2

- Conduct initial evaluation of impacted States' ability or capability to provide situation reports (electronically or telephonically).

ESF-3

- Obtain information necessary to run commodity needs models and debris models and provide those projections.
- Report status of flood control, flood fighting projects and navigational channels.

ESF-5 (*Situational Awareness Section*)

- Collect information on the status of the incident in the impacted State governments.
- Coordinate with ESF-3 and ESF-12 to provide power outages and projected repair times to the NRCC within 12 hours of landfall.
- Coordinate with the RSS, Air Operations Branch to capture fly-over assessments from deployed/operating platforms.
- Ensure tracking for restoration of essential community services (i.e. SWEAT-Sewer, Water, Energy, Electricity, and Transportation) in support of state and local priorities is established (continue through all phases).

ESF-6

- Review initial Assess, Inform, and Report (AIR) reports coming in from Disaster Survivor Assistance (DSA) personnel being deployed and arriving in impacted areas

Phase 2b - Deployment

End State: Expanding information about the incident has been collected and validated. Situational assessments have been refined to inform command and control structures of the operational environment.

All ESFs

- Track and report location and duties of all resources assigned to the disaster operation

ESF-5:

- Continue situational awareness and conduct daily updates using appropriate technologies;
- Revise COP schedule with response personnel and synchronize with reporting schedule.
- Refine aerial assessment priorities and provide to IRSCC, Air Operations Branch, and coordinate with DCE for un-met assessment needs.
- *SAS:* As more resources -are deployed, employed, and State reporting capabilities increase, shift collection of EEIs/CIRs from un-official sources to official sources (continue through all phases).

Phase 2c – Sustained Response

End State: As the information flow is standardized, data has been further refined, distilled, and validated, providing decision makers with more comprehensive information necessary to facilitate operational coordination.

All ESFs

- Track and report location and duties of all resources assigned to the disaster operation
- Track progress of missions and assignments by appropriate metrics and report formats

ESF-5 (*Situational Awareness Section*)

- Continue situational awareness and conduct daily updates using appropriate technologies;

- Synchronize reporting mechanisms and schedule with Federal and State information sources
- Transition management of the COP to the JFO planning staff.
- Coordinate with Recovery personnel to identify analysis that needs to occur to aid in the transition from short-term recovery, including but not limited to the following:
 - Projected power restoration times and patterns.
 - Projected MDRC locations and potentially under-served communities.
 - Possible functional needs communities requiring specialized staff or equipment that could exceed recovery capabilities/resources.
 - Modeled impacts.
- Deactivate IRSCC mission if incident does not require.

Phase 3a – Short-Term Recovery

End State: Data has been further refined, distilled, and validated, providing decision makers with the information necessary to inform demobilization decisions and transition to recovery. Situational reports on the functionality of critical infrastructure and essential government and commercial services have been disseminated to support the reintegration of survivors.

All ESFs

- Track and report location and duties of all resources assigned to the disaster operation
- Track progress of missions and assignments by appropriate metrics and report formats

ESF-5:

- *SAS:* Maintain a COP for recovery program needs so demobilization of assets can begin at the earliest opportunity; and
- Complete transition of RRCC functions to the JFO.

Appendix 2: Operational Coordination

During a tropical cyclone response, it is necessary to coordinate unity of effort across local incident commands, the affected states, and the Federal response. Federal activities will focus on supporting state and local needs as a result of major wind and flooding damage following the tropical cyclone incident.

Hurricane Operational Coordination Objective: Facilitate coordination of critical resources and establish command and control structures within threatened and impacted jurisdictions to meet basic human needs, stabilize the incident and transition into recovery. (Note this objective is revised from the All-Hazards Plan and is specific only to hurricanes and other tropical cyclones.)

Concept of Operations for Operations Coordination

During normal operations, the Region II Regional Watch Center conducts monitoring of tropical weather risks within the area of operations of FEMA Region II in coordination with the National Hurricane Center and the National Weather Service San Juan. In the event there is an identified tropical disturbance, the Region II Watch will actively monitor the disturbance throughout its life-cycle, regardless if there is a threat to the Region.

Once the Watch has identified a disturbance that meets the criteria of Elevated Threat, the Response Division Director, in coordination with the Regional Administrator, will activate the RRCC. Warning orders and/or activation orders may be issued at this time. In order to ensure effective command and control of Federal resources, the Response Division Director will activate the Caribbean Area Division IMAT for Puerto Rico, and deploy the Region II IMAT to the US Virgin Islands. The Caribbean Area Division IMAT will be labeled as IMAT Puerto Rico. The Region II IMAT will be labeled as IMAT USVI.

The RRCC is operational throughout all response phases to process resource requests that are facilitated by IMATs in the field. This is done by processing mission assignments and contracts, issuing the Regional Support Plan, updating HQ and other stakeholders. The resources acquired and staged by the RRCS, as well as the priorities and objectives of Puerto Rico and the US Virgin Islands become the starting point for the IMATs. The RRCS maintains the lead in coordinating activities until such time that the IMATs can validate operational control through the ability to perform functions listed above (process requests, issue mission assignments and contracts, etc.)

IMAT Puerto Rico will maintain communications with the Puerto Rico Emergency Management Agency (PREMA). The IMAT Puerto Rico may also assign branch directors/division supervisors to the twelve (12) PREMA zones to facilitate the request of resources.

IMAT USVI will be deployed from New York, NY to either St. Thomas or St. Croix, in coordination with the Virgin Islands Territorial Emergency Management Agency (VITEMA) director. The lead FEMA official (whether pre-designated FCO or IMAT Team Leader) must be

on the same island as the Governor. IMAT USVI will assign division supervisors to any island with an activated EOC, unless otherwise directed.

A major disaster declaration for either jurisdiction signals the beginning transition of the IMAT into an independently operating Joint Field Office. Again, the completed transition is marked by the ability of the JFO to validate operational control through the ability to perform functions listed above (process requests, issue mission assignments and contracts, etc.). The scenario may be severe enough that both jurisdictions would receive a major disaster declaration and thus separate JFOs. In this instance, an Area Command should be established to adjudicate resources that both Puerto Rico and the US Virgin Islands may be requesting in this remote and possibly austere environment. Due to space and access constraints, the Area Command is best located in Puerto Rico.

Actions by Phase and ESF

Phase 1a – Monitoring / Normal Operations

End State: Federal department and agencies have utilized NIMS-consistent plans, training, and exercising to ensure a coordinated command structure.

ESF-5

- FEMA Region II will conduct periodic tests, training and exercises of staff to their specific roles consistent with the Regional Incident Support Manual (RISM), the All Hazards Plan, and this annex.

Phase 1b – Elevated Threat

End State: Situational reports have been analyzed and addressed to plan for the potential activation of Federal, regional, commonwealth/territorial, and local coordination structures in response to a tropical cyclone. Notifications including operations orders and Emergency Notification System (ENS) communications are issued as needed.

ESF-5

- The Watch in concurrence with the National Hurricane Liaison Team will notify and inform regional FEMA leadership of an elevated threat of a tropical storm/hurricane. Warning and Operations Orders will be developed and disseminated.
- The Response Division Director will activate the RRCC to the appropriate level based on current assessment of the storm track and intensity.
- The Regional Administrator will notify the FEMA Administrator that initial actions are underway in response to the elevated threat.
- The Chief-RRCS and Resource Support Section Chief will activate select ESFs.
- The Chief-RRCS and Resource Support Section Chief will coordinate with the impacted states and all appropriate parties to coordinate and synchronize Federal and state operations.
- SAS/RSS: Coordinate with the impacted areas to maintain shared situational awareness and understanding on the resourcing and delivery of required resources.
- The Chief-RRCS and all section chiefs will participate in daily NRCC video teleconferences.
- SAS: Develop and implement an Incident Information Collection Plan.

- *RSS*: Submit requests for surge account funding to begin mobilizing and deploying personnel and equipment, as necessary.
- *SAS*: Coordinate and request geospatial and geographic information system support needed for incident management.
- The IMATs will review pre-deployment checklists.

Phase 1c – Credible Threat

End State: Situational reports have been analyzed and assessed and federal coordination structures have been established.

All ESFs

- Identify Federal emergency assets and capabilities available for deployment.
- Conduct regional-level operational planning with Puerto Rico and the US Virgin Islands to develop unified response plans.
- Establish coordination and planning processes with other Federal and commonwealth / territorial departments and agencies.

ESF-1

- Coordinate aviation and maritime regulatory waivers, exemptions, and permits.

ESF-2

- Activate and deploy members of the National Communications System, including the Regional Emergency Communications Coordinator.

ESF-3

- Place appropriate planning and response teams on alert.

ESF-4

- Identify readiness of US Forest Service personnel available for OCONUS deployment.

ESF-5

- *RSS*: Determine the need to activate Federal resources in advance of formal requests for assistance.
- *RSS*: Reports all FEMA facilities and any FEMA team, detachment, or communications asset that is in place for more than six hours, using appropriate description and geo tag (continue through all phases).
- *RSS*: Coordinate activation of ESFs, the size and composition of the organizational structure, the level of staffing, and the key personnel required for the disaster response.
- *RSS*: Detect and resolve resource allocation issues.
- Establish a Federal support infrastructure in PR/USVI in anticipation of requirements for hazard response and recovery.
- *RSS*: Conduct resource allocation and tasking through the mission assignment process.
- *SAS*: Provide situation reports and other information, as requested, to the NRCC, in accordance with NRCC standard operating procedure(s) and protocols.
- *RSS*: Maintain accountability of all deployed Federal supplies and resources.

- *RSS*: Activate and deploy regional IMATs and other necessary teams to PR/USVI in order to establish an IOF/JFO and to begin coordination of the Federal response.
- *RSS*: Deploy appropriate incident support management personnel on site.
- *IMAT Operations*: Establish an IOF.
- Establish reporting and communications protocols with the activated agencies.
- Establish an Air and Maritime Operations Branches (potentially could be post-landfall)
- Ensure field facility locations are identified (ex. ISBs, RSCs, Field Hospitals, etc.)
- Analyze, prioritize, adjudicate, and allocate resources to identify and employ Federal resources to support operations.
- Engage in incident action, current, and future planning functions in coordination with the other ESFs engaged in the operation and with those who are operating under department and agency statutory authorities.
- *RSS*: Activate and deploy additional Federal assets and personnel, when requested and approved.
- Send qualified representatives to staff interagency EOCs (e.g., CBP, EPA, USCG) as rostered or directed.
- Activate and deploy U.S. Army Corps of Engineers ESF-3 Team Leaders and Assistant Team Leaders to the RRCC, and IOF (if available).
- Prepare and issue ESF-3 pre-declaration PSMA for water, debris removal, commodities, and temporary power.
- Ensure that all facilities and field operations have operational capability (goal is within 48 hours following site acquisition).
- Process gubernatorial requests for major disaster or emergency declarations for PR/USVI (continue through all phases).

ESF-6

- Support the mobilization and implementation of mechanisms to track the movement of evacuees, resources, household pets, service animals, medical equipment, and luggage.
- Support the establishment, management, and operation of congregate and non-congregate shelters.
- Coordinate with Regional Volunteer Organizations Active in Disasters and NGO partners to provide personnel and equipment to support response.
- Evaluate evacuee reception capabilities throughout the impacted area, including individuals with disabilities and those with access and functional needs.

ESF-7

- Establish required field facilities (e.g., JFO,) and arrange for supplies and equipment to support Federal activities related to the management of an incident.
- Activate and deploy support vehicles and Mobile Emergency Response System (MERS) Emergency Operations Vehicles (EOV) near the area forecasted to be impacted so as to establish a temporary operating location for the FCO and support staff.
- Request space requirements from all partners.
- Source vendors and/or request ESF MAs to fulfill sustainment, replenishment, and transportation of all requirements.
- Notify vendors of incident and possible requests for support through the Federal Acquisition Service (FAS), as required.

ESF-8

- Deploy Incident Response Coordination Team (IRCT), response teams, and supplies, and provide liaisons to Federal, regional, and EOCs and JFOs.
- Coordinate the Federal response in support of emergency triage and pre-hospital treatment, patient regulation, and tracking.
- Provide professional and technical assistance for behavioral health, environmental health, food safety and defense, public health and medical.

ESF-9

- Identify and pre-deploy resources to staging areas.

ESF-10

- Coordinate with FEMA and local, commonwealth, and territorial officials to provide oil/hazardous materials response.

ESF-11

- If requested, provide technical support for feeding support for shelters.
- If requested, provide technical support for animal response.

ESF-12

- Serve as the Federal point of contact with the energy industry for information sharing and requests for assistance from private and public-sector owners and operators.
- Coordinate with the PR/USVI emergency management offices for emergency response fueling locations.

ESF-13

- Assess the need for Federal law enforcement support.

ESF-15

- Deploy initial ESF-15 personnel to IOF/JFO.
- Coordinate ESF-15 actions, including messaging and staffing, with Federal and PR/USVI partners.

Phase 2a – Immediate Response

End State: Communications have been maintained (or restored) with stakeholders. Gradual movement of resources has commenced which brings assets closer to the affected area.

All ESFs

- Maintain contact with field deployed elements and report activity as necessary.

ESF-1

- Identify temporary alternative transportation solutions to be implemented when primary systems or routes are unavailable or overwhelmed.

ESF-2

- Ensure communications capabilities are functioning between command and control nodes.

ESF-3

- Provide structural specialist expertise to support inspection of mass care facilities and urban search and rescue operations in coordination with ESF-9.
- Provide coordination, response, and technical assistance to support the rapid recovery and reconstitution of critical waterways, channels, and ports.
- Assist in the clearance of prioritized routes in need to support critical facilities and PODs
- Assist in power restoration of prioritized critical facilities.

ESF-4

- Provide radio communications systems to support firefighters, law enforcement officers, and incident response operations.
- Provide command, control, and coordination resources, to include incident management teams, area command teams, and multi-agency coordination group support personnel, to local, commonwealth, and territorial, and Federal departments and agencies.
- Prepare/Deploy emergency road clearance crews, as requested, to provide access routes through debris-blocked roadways,

ESF-5

- Establish Unified Coordination Group.
- *RSS*: Engage the private sector and NGOs to determine resource availability within the impacted area.
- Coordinate with local, commonwealth, and territorial representatives to conduct a rapid needs assessment of the impacted area.
- Establish a regional operations tempo (i.e., incident reporting timeline) in coordination with the impacted areas.
- Review Preliminary Disaster Assessments in order to recommend for major disaster declaration.
- Employing resources from pre-incident locations to operating locations.
- Deploying initial response resources or pre-positioned disaster supplies and sustaining comprehensive logistics support operations.

ESF-6

- Coordinate with local, commonwealth, territorial governments, and NGOs to facilitate the return of evacuees to their pre-disaster or alternate locations.

ESF-7

- Reviewing available leases inside the affected area to establish offices.

ESF-8

- Transport seriously ill or injured patients and medical needs populations from casualty collection points in the impacted area to designated reception facilities, utilizing the National Disaster Medical System and other Federal agencies as required.

ESF-9

- Stage and operate with local incident commanders as designated by PR/USVI (continue through phase 2b).
- Coordinate the resolution of conflicting operational demands for search and rescue response resources (continue through Phase 2b).

ESF-10

- Deploy ESF-10 personnel to response venues as needed, including the RRCC, JFO, PR/USVI/local EOCs, and affected area. As ESF-10 responders arrive on-site, establish incident/unified command structures.
- Coordinate with FEMA and local, commonwealth, and territorial officials to establish high-priority response objectives and needs.

Phase 2b – Deployment

End State: Based on shared situational awareness and operational analysis, the adjudication, prioritization, and allocation of resources and personnel have been coordinated through the lead agency's coordinating structure. Personnel and resource deployment has been initiated.

ESF-5

- *RSS:* Deploy continuity support teams to assist in reconstitution of critical government facilities and services.
- *RSS:* Deploy Logisticians and Field Officers to the JFO and/or Mobilization Center to assist with matching commodity donations from international donors to consignees, if required.

ESF-11

- Assist in data collection and information analysis to inform decisions on placement of temporary housing sites and staging areas and mitigate possible damage to natural and cultural resources.
- Conduct surveys of wetlands and archaeological sites; make biological assessments; make condition assessments of historic structures and museum and archival collections to assist with evaluating sites to inform planning and operational decisions.
- Facilitate whole community multiagency coordination with NGOs for animal response activities.

Phase 2c – Sustained Response

End State: Initial Federal resources have been distributed to the ISB, the Joint Field Office has been established, and IMATs have conducted necessary operations for the initial support of basic needs to disaster survivors. Response operations across the impacted area have been coordinated in accordance with NIMS.

All ESFs

- Ensure team and personnel rotation plans are developed and implemented.

ESF-1

- Provide longer-term coordination of the restoration and recovery of the affected transportation systems and infrastructure, if required.

ESF-5

- *RSS*: Begin expanding JFO staffing for recovery and assistance programs.

ESF-6

- Develop an initial temporary housing strategy to transition survivors from congregate to non-congregate alternatives and provides relocation assistance or interim housing solutions for households unable to return to their pre-disaster residence.
- Identify housing resources from the private sector and other Federal departments and agencies available to disaster survivors.

ESF-15

- Coordinate with the affected areas to identify community leaders (e.g. grassroots, political, religious, education, business, cultural, ethnic) and neighborhood advocacy groups to assist in the rapid dissemination of information, identify unmet needs, establish an ongoing dialogue and information exchange, and facilitate collaborative planning and mutual support for disaster response.

Phase 3a – Recovery

End State: Coordination elements are transitioning to long-term recovery operations and focus on reintegration of survivors and restoration of basic services via the National Disaster Recovery Framework.

ESF-5

- Deactivate selected ESFs that are no longer required to support operations.
- Implement demobilization plans.
- Close out MAs and process invoices of other Federal departments and agencies.
- Review after action reports and revise plans and procedures accordingly.
- Archive MAs and historical files/records maintained during the incident.
- Coordinate with other Federal departments and agencies to assess lessons learned for future planning requirements.

Tab 1 to Appendix 2: Public Information and Warning

Public information and warning will occur in advance of the storm in Phases 1b and 1c. Time preceding tropical cyclone landfall will permit issuance of advanced actionable messages to populations within and around the projected landfall. Information presented here comes primarily from the DHS Headquarters External Affairs and is relatively standardized nationwide.

Hurricane Public Information and Warning Objective: Provide public information to the impacted populations in coordination with Puerto Rico and US Virgin Islands governments. (Note this objective is revised from the All-Hazards Plan and is specific only to hurricanes and other tropical cyclones.)

Concept of Operations for Public Information and Warning

Planning for public information and warning is unique in the Caribbean. There is a high capacity for communication in Puerto Rico however the message must be conveyed in Spanish. In the US Virgin Islands, English is the predominant language however there is limited capacity.

Region II External Affairs, through the Caribbean Area Division, establishes initial messaging and products through the respective emergency management agencies. The CAD also maintains a contact list of all media outlets in the Caribbean. In the event of tropical disturbance, and activations of EOCs, Joint Information Centers (JICs) will be established with FEMA representation. The JICs may not be located at a DHS facility (JFO/CAD/IOF). The JIC may be located at the EOC or Governor's office. A review and tailoring of pre-scripted messages and fliers is ongoing throughout the different phases.

It is important to note that the program "Community Relations" was changed in 2013. It is now called Disaster Survivor Assistance (DSA) and it is managed by the Recovery Division during Phase 1A. In Phase 1B, DSA transitions to the authority of the Operations Section, with the IMAT, and eventually to the JFO.

Participation in establishing conference calls, briefings, press releases, fact sheets, flyers, etc. is an ongoing duty and only increases towards landfall and even after (during the height of response). Intergovernmental Affairs and Congressional Affairs are just a few of the units responsible for the various products and workload of External Affairs. Congressional Affairs is slightly different in the Caribbean due to the fact that Puerto Rico is a territory and the US Virgin Islands is a commonwealth of the United States. As such, they do not have the same congressional structure as the 50 states. Puerto Rico and the US Virgin Islands each have one, non-voting member within the House of Representatives. There is a significant Caribbean population that resides in the CONUS with representation in Congress that may require the more traditional Congressional Affairs approach/strategy.

Actions by Phase and ESF

Phase 1a – Monitoring / Normal Operations

End State: Federal planning, training, and outreach activities have occurred in the absence of a specific threat.

ESF-15

- Exchange information and discuss strategies with state PIOs, Disability Integration Specialists, mass care staff, state Disaster Survivor Assistance (DSA) staff and partner agencies (including disability agencies and divisions) on a regular basis;
- Outreach to PR/USVI during Hurricane Preparedness Week.
- Respond to inquiries from key EA stakeholders about tropical cyclone preparedness.
- Region II External Affairs maintains the capability to respond to an ESF-15 activation by:
 - Planning:
 - Update the Region II Hurricane Annexes (External Affairs sections) annually.
 - Update the initial strategic communications plan (includes all functional areas), the RRCC SOP, RRCS position checklists and other resources annually.
 - Staffing:
 - Pre-identify and train key staff to support rapid field deployments
 - Training:
 - Regional Staff:
 - ❖ Participate in internal and external exercises.
 - ❖ Cross-train staff on multiple functions; including Regional Disability Integration Specialist disability awareness
 - ❖ Develop training plans for all surge staff; including disability awareness
 - ❖ RRCC and key spokesperson training
 - Reservists:
 - ❖ Select Reservists for each EMI and DRWD training opportunity and encourage Reservists to take online independent study courses and training offered at JFOs.
 - Products:
 - Review/refresh/update the following:
 - ❖ Templates, standard fact sheets and backgrounders
 - ❖ Demographic data, including disability data sets for a given area/state
 - ❖ Training, liaison and reference guidelines for writers
 - ❖ Contact lists, check lists, field guides
 - ❖ Key communications triggers matrix
 - ❖ Flyers, pamphlets (pre-approved by states)
 - ❖ Provide in Accessible Needs formats/modalities
 - ❖ Media hot lists and RRCC media access policy
 - ❖ SOPs for media monitoring, photo and video preparation, archiving and uploading, including captioning and American Sign Language (ASL).

- Sample of Pre-landfall messages:
 - Movement of teams/commodities/assets to support federal response.
 - Final preparedness actions/what to do during/after storm makes landfall
 - Evacuation/movement inland; influx of people who need to be evacuated
 - Guidance for those who didn't evacuate, supporting local/state messaging.
 - Refine declaration specific messaging (pre-dec., emergency dec., post dec.)
- Logistical:
 - Field equipment and shipping cases (camera, video, cell phones, media monitoring, etc.) are working, charged and ready to go.
 - Logistics/IT is briefed on requirements for staff surge
 - RDIS coordinate with Logistics and IT to ensure that DRC Kits contain laptops that have accessibility tools to meet all survivor needs.

Phase 1b – Elevated Threat

End State: Pre-scripted messaging has been prepared for release.

ESF-15

External Affairs Officer Key Actions:

- Communicate with HQ, state PIOs, IMAT PIO and other federal agencies concerning planning activities, current situation, objectives, surge plans and staffing requirements.
- Identify and alert IMAT EA team member(s) for possible deployment.
- Deploy key staff to the RRCC, and develop a surge roster of field staff including Disability Integration Specialists, Field PIOs, photographer, and videographer, as needed.
- Meet with Logistics and IT to confirm surge requirements.
- Develop RRCC EA staff work schedule based on RRCC operational hours.
- Identify EA staff to fill Situation Unit

Resource Manager Key Actions:

- Check availability of EA Reservist cadre (per instruction of EAO).
- Process and implement staff deployments to multiple locations.
- Develop tracking mechanism for deployments.
- Ensure incoming EA staff is properly checked in.
- Identify and support resource requirements for photo/video and other field equipment

Planning and Products Key Actions:

- Initialize contact with activated ESFs
- Develop daily talking points and briefing materials on federal response preparations as needed.
- Establish a daily communications summary/EA daily plan and provide to the EAO (EAO designated by DHS Office of External Affairs).
- Ensure information is properly sourced, approved and accurate prior to dissemination.
- Brief writers on RRCC EA policies and procedures.

- Monitor and provide updates/feedback to HQ products and ensure unity of information in RRCC products.
- Support all EA staff on product requirements, including:
 - Talking points/news releases/PSAs/fact sheets/backgrounders
 - Flyers
 - IGA/congressional briefings
 - PS advisories
 - Scripts for video/specialty features
- Support all EA staff on reporting requirements, including:
 - Regional Support Plan (ESF 5)
 - Situation Report (ESF 5)
 - Daily Communication Summary (ESF-15)
 - Daily Plan (ESF 15)
- Coordinate with Resource Management to ensure timely translation of products.
- Ensure writers place drafts in RRCC SharePoint folder for External Affairs
- Attend daily debriefing/communications calls with field deployed EA staff.

Joint Information Center Key Actions:

- In coordination with the Chief of the RRCs/Ops chief, brief RRCS and activated ESFs on the possibility of media presence
- Support News Desk and respond to incoming media inquiries in the RRCC as needed.
- Disseminate and conduct outreach on tropical cyclone preparedness through traditional, social media and digital communications.
- Initiates monitoring and issues daily clips and analysis, as needed.
- Broadcast Operations (videographer, photographer and producer) cover potential federal preparedness and response activities, and in coordination with FEMA HQ, upload products through approved site for posting.
- Reviews media access policy with ESF-15 staff and spokespersons.
- Before potential media visit to RRCC, coordinates with IT to have appropriate visual/backdrop on RRCC screen(s).
- Notifies security in accordance with media access policy and procedures.

Congressional Affairs Key Actions:

- Identify the congressional delegation in areas that could potentially be affected.
- Create matrix spreadsheet of potentially affected Congressional districts.
- Conduct initial outreach, including, but not limited:
 - Establish POC to provide updates to;
 - Assessment of need for more “hands-on” briefing with Members of Congress (MOC) and/or staffer to explain federal response activities, policy/procedures;
 - Provide federal preparedness and response activities; provide personal preparedness information (advisories, tips, widgets for MOCs’ websites)
- Track congressional inquiries by starting log of outreach activities; record questions, issues raised.
- Based on frequency and type of inquiries, assess the need for conference call with one or more of potentially affected congressional offices.
- Coordinate with EAO and JIC lead on potential hot issues that may also appear in media.

- Coordinate with HQ Congressional Affairs on all outgoing advisories and incoming inquiries.

Intergovernmental Affairs Key Actions:

- Prepare event-specific spreadsheet that includes the following:
 - Contact list for potentially affected PR/USVI governments.
 - Background data (past disasters, hot issues, etc.)
 - Record of office visits, interactions with stakeholder
 - Event outreach tracking
- In coordination with EAO and other EA components, send information pertinent to potentially affected stakeholders through traditional methods (e-mail advisories, etc.)
- Begin creation of IGA reference binder

Private Sector

- Prepare event-specific spreadsheet that includes the following:
 - Contact list for potentially affected private sector stakeholders.
 - Background data (past disasters, hot issues, etc.)
 - Record of interactions with stakeholders
 - Event outreach tracking
- Coordinate with HQ PS to assess national-level PS partners potentially affected by storm.
- Reach out to PR/USVI PS coordinator or POC to establish clear communication goals and expectations for PS component.
- Reach out to DHS Protective Security Advisor to establish infrastructure protection network.
- In coordination with EAO and other EA components, send information pertinent to potentially affected stakeholders through traditional methods (e-mail advisories, etc.)
- Based on outreach and assessment of need, schedule conference calls with shipping companies and corporations that have interests in potentially affected areas.

Phase 1c – Credible Threat

End State: Pre-scripted messaging is being adjusted, as required, and prepared for release.

ESF-15

External Affairs Key Actions:

- Implement surge plan in coordination with the PR/USVI PIO and DSA coordinators.
- Fully inform key stakeholders and field staff on a daily basis of current situation(s) and anticipated issues via conference call briefings, telephone call outs and advisories.
- Support evacuation and sheltering communications and staffing as required.

Resource Manager Key Actions:

- Continue to obtain required check-in information from EA staff.
- Continue to process and implement additional staff deployments.
- Update and maintain distribution lists, contact lists, staff rosters, call down lists and organization charts.
- Coordinate with training office to determine and implement specific training for incoming staff.
- Ensure product templates are current, and verify with potentially affected states
- Initiate and coordinate the LEP contract between HQ and the RRCC

- Format and distribute products.
- Continue to initiate, process and implement 143-0, 143-1 purchase requests.
- In coordination with JIC, create PR Newswire (Public Relations, not Puerto Rico) list for potentially affected media markets
- Continue to manage daily activities with RMs in the RRCC.

Planning and Products Key Actions:

- Continue liaison contact with activated ESFs
- Develop daily talking points and briefing materials on federal response preparations as needed.
- Prepare daily communications summary/EA daily plan and provide to the EAO.
- Ensure information is properly sourced, approved and accurate prior to dissemination.
- Monitor and provide updates/feedback to HQ products and ensure unity of information in RRCC products.
- Support all EA staff on product requirements, including:
 - Talking points/news releases/PSAs/fact sheets/backgrounders
 - Flyers
 - IGA/congressional briefings
 - PS advisories
 - Scripts for video/specialty features
- IGA/congressional briefings
 - PS advisories
 - Scripts for video/specialty features
- Coordinate with Resource Management to ensure timely translation of products.
- Attend daily debriefing/communications calls with field deployed EA staff.
- Coordinate with RDIS for messaging to functional needs audience.

Joint Information Center Key Actions:

- Assess field PIO training needs and develop training plan, as needed.
- Coordinate with RDIS to ensure preparedness messaging is available to functional needs populations in potentially impacted areas.
- Participate with the EAO and other leads to develop communications strategy.
- Continue to support News Desk and respond to incoming media inquiries in the RRCC as needed.
- Coordinate with FEMA HQ on media requests for activities that may be outside of Area of Responsibility.
- Continue to disseminate and conduct outreach on tropical cyclone preparedness through traditional, social media and digital communications.
- Continue media monitoring and issue news clips and analysis, as needed.

Congressional Affairs Key Actions:

- Continue to coordinate with HQ Cong. Affairs on HQ-generated advisories.
- Coordinate messaging needs (briefings, fact sheets, etc.) with EAO, Planning and Products, and apprise EA leads of potentially upcoming issues.
- Conduct outreach to Congressional offices by phone and e-mail, including advisories and situational updates.

- Coordinate needs for Program SME presence on conference calls and delegation briefings with EAO.
- Continue to track congressional inquiries by logging outreach activities; record questions, issues raised.
- Ensure Congressional Affairs Field Resource Guide is completed.

Intergovernmental Affairs Key Actions:

- Continue to update event-specific spreadsheet, including contact lists, outreach, background information and inquiry log.
- Continue to relay messaging to stakeholders in potentially affected areas.
- Coordinate outreach with PR/USVI counterparts.
- Coordinate with potentially affected commonwealth, territorial, and local governments and associations (with PR/USVI government approval).
- In coordination with EAO, assess staffing needs.

Private Sector Key Actions:

- Refine event-specific spreadsheet that includes the following:
 - Contact list for potentially affected private sector stakeholders.
 - Background data (past disasters, hot issues, etc.)
 - Record of interactions with stakeholders
 - Event outreach tracking
- Continue to coordinate with HQ PS (NRCC) to assess national-level PS partners potentially affected by storm.
- Continue to coordinate with PR/USVI PS coordinator(s) or POC on all activities related that involve that PR/USVI governments.
- Continue to coordinate with DHS Protective Security Advisor to establish infrastructure protection network.
- Continue to send information pertinent to potentially affected stakeholders through traditional methods (e-mail advisories, etc.)
- Develop engagement plan for JFO.
- Based on outreach and assessment of need, schedule conference calls with shipping (air and sea) companies and corporations that have interests in potentially affected areas.
- Based assessment of need, determine needs for billboard advertising in affected areas.

Phase 2a – Immediate Response

End State: Based on preliminary incident assessments and information analysis, public messaging has been coordinated across local, territorial, commonwealth, and Federal jurisdictions. Initial public messages have been broadcast to applicable areas using available mechanisms.

ESF-15

External Affairs Key Actions:

- Communicate daily with surge staff leadership.
- Coordinate with HQ on situational awareness and staffing gaps/needs.
- Coordinate with JFO development team on needs for ESF-15 build out requirements.

Resource Manager Key Actions:

- Coordinate with RMs at surge location(s) to ensure staff accountability.
- Assess staff placement and coordinate any additional Reservist deployments.
- Create a tracking mechanism for accountable property and resources.
- Continue to maintain and update internal distribution lists, contact lists, staff roster, call down lists and organization charts.

Planning and Products Key Actions:

- Continue liaison contact with activated ESFs
- Develop daily talking points and briefing materials on federal response preparations as needed.
- Begin 3-day strategic communications and messaging plan
- Prepare daily communications summary/EA daily plan and provide to the EAO.
- Ensure information is properly sourced, approved and accurate prior to dissemination.
- Monitor and provide updates/feedback to HQ products and ensure unity of information in RRCC products.
- Support all EA staff on product requirements, including:
 - Talking points/news releases/PSAs/fact sheets/backgrounders
 - Flyers
 - IGA/congressional briefings
 - PS advisories
 - Scripts for video/specialty features
 - Other support materials to other EA components
- Support all EA staff on reporting requirements, including:
 - Regional Support Plan (ESF 5)
 - Situation Report (ESF 5)
 - Daily Communication Summary (ESF-15)
 - Daily Plan (ESF 15)
- Coordinate with Resource Management to ensure timely translation of products.
- Attend daily debriefing/communications calls with field deployed EA staff.
- Coordinate with RDIS for messaging to functional needs audience

Joint Information Center Key Actions:

- Coordinate and responds to media requests and coordinates media events/briefings.
- Conduct daily coordination conference calls with surged staff.
- Continue to disseminate and conduct outreach on federal response and initial recovery messaging through traditional, social media and digital communications.
- Continue media monitoring and issue news clips and analysis, as needed.
- Broadcast Operations (videographer, photographer and producer) cover RRCC activities, surge operations and commodity movements from the Atlanta area as appropriate and upload products to HQ for posting.

Congressional Affairs Key Actions in Phase 2a:

- Continue to track congressional inquiries by logging outreach activities; record questions, and issues raised.

- Provide recommendation for future staff roster to EAO and RM based on assessment of field needs.
- Conduct outreach to Congressional offices by phone and e-mail, including advisories and situational updates.
- Continue to conduct conference calls to apprise Congressional staff of most current situation, and provide background on federal response actions.
- Continue to coordinate needs for Program SME presence on conference calls and delegation briefings with EAO.
- Coordinate with IMAT EAO to identify need for cong. affairs field presence
- Facilitate requests with IMAT EAO for congressional delegation (CODEL) ride-alongs and federal response coordination meeting attendance.

Intergovernmental Affairs Key Actions:

- Continue to update event-specific spreadsheet, including contact lists, outreach, background information and inquiry log.
- Continue to relay messaging to stakeholders in potentially affected areas.
- Continue to coordinate outreach with PR/USVI counterparts.
- Coordinate with potentially affected commonwealth, territorial, and local governments and associations (with PR/USVI government approval).
- Continue to assess staffing needs in RRCC, field and for JFO.
- Continues to conduct daily outreach to commonwealth, territorial, and local governments to include email advisories/updates/press releases, as well as telephone call-outs and conference calls to apprise staff of most current situation.
- Finalize IGA reference transition binders.

Private Sector Key Actions:

- Continue to coordinate with HQ PS (NRCC) to assess national-level PS partners potentially affected by storm.
- Continue to coordinate with PR/USVI PS coordinator(s) or POC on all activities related that involve that state.
- Continue to coordinate with DHS Protective Security Advisor.
- Continue to send information pertinent to potentially affected stakeholders through traditional methods (e-mail advisories, etc.)
- Develop engagement plan for JFO.
- Conduct conference calls with all PS stakeholders who request information, as necessary, including but not limited to, shipping (air and sea) companies and corporations that have interests in potentially affected areas.
- Based assessment of need, determine needs for billboard advertising in affected areas.
- Begin JFO transition binder.
- Assess JFO staffing and resource needs; coordinate with Resource Management.

Phase 2b - Deployment

End State: Based on more comprehensive situational assessments, public messaging has been refined to meet the immediate needs of responders and the general public.

ESF-15

External Affairs Key Actions:

- Continue to engage all key stakeholders thru appropriate channels.
- At the direction of command staff, key ESF 15 staff will move forward to the JFO or to an Interim Operating Facility.
 - External Affairs support will remain with the RRCC until EA leadership is in place and the JFO and ESF 15 function are operational.
- Communicate daily with surge staff leadership.
- Coordinate with HQ on situational awareness and staffing gaps/needs.
- Coordinate with JFO development team on needs for ESF-15 build out requirements.
- Support Preliminary Damage Assessments (PDAs) as needed.
- Develop robust strategic communications plan for recovery efforts.
- Identify additional staff requirements.
- Transition EA operation at RRCC to the JFO.
- Prepare After-Action summary.

Resource Manager Key Actions:

- In coordination with the EAO, transition EA staff to IOF/JFO.
- Establish check-in process and checkpoint to ensure staff accountability.
- Continue to initiate, process and implement 143-0, 143-1 purchase requests.
- Coordinate any additional deployments with EAO.
- In coordination with P&P, to determine correct product format
- Research and assess needs for contractual services needed to support all components of EA.
- Format and distribute products.
- Maintain and update contact lists, staff roster, call down list and organization charts.
- Coordinates with RMs at surge location(s) to ensure staff accountability.
- Assess staff placement and coordinate any additional Reservist deployments.
- Continue tracking EA accountable property and resources. Assess further needs.
- Provide administrative guidance to staff on travel information and local lodging availability.
- Continue to maintain and update internal distribution lists, contact lists, staff roster, call down lists and organization charts.
- Continue to format and distribute products to internal, external and Media Vantage lists.

Planning and Products Key Actions:

- Continue liaison contact with activated ESFs
- Develop daily talking points and briefing materials on federal response actions as needed.
- Begin 3-day strategic communications and messaging plan
- Prepare daily communications summary/EA daily plan and provide to the EAO.
- Ensure information is properly sourced, approved and accurate prior to dissemination.
- Monitor and provide updates/feedback to HQ products and ensure unity of information in RRCC products.
- Support all EA staff on product requirements, including:
 - Talking points/news releases/PSAs/fact sheets/backgrounders
 - Flyers
 - IGA/congressional briefings
 - PS advisories
 - Scripts for video/specialty features

- Other support materials to other EA components
- Support all EA staff on reporting requirements, including:
 - Regional Support Plan (ESF 5)
 - Situation Report (ESF 5)
 - Daily Communication Summary (ESF-15)
 - Daily Plan (ESF 15)
- Coordinate with Resource Management to ensure timely translation of products.
- Attend daily debriefing/communications calls with field deployed EA staff.
- Coordinate with RDIS for messaging to functional needs audience

Joint Information Center Key Actions:

- Refine key media lists and assignments in PR/USVI based on affected areas and key media markets.
- Conduct daily coordination teleconferences with surge staff.
- Transition Broadcast Operations (videographer, photographer and producer) from RRCC or surge facility to support field/PDAs/DRC openings. Upload products to HQ for posting.
- Provide PIO support for PDAs, shelter operations, mass evacuation sites, establishment of DRCs.
- Continue to disseminate and conduct outreach on federal response and initial recovery messaging through traditional, social media and digital communications.
- Continue media monitoring and issue news clips and analysis, as needed.
- News Desk coordinates and responds to media requests.
- Coordinate and respond to media requests and coordinates media events/briefings.

Congressional Affairs Key Actions:

- Continue to conduct outreach to Congressional offices by phone and e-mail, including advisories and situational updates.
- Continue to track congressional inquiries by logging outreach activities; record questions, and issues raised.
- Continue to conduct conference calls to apprise Congressional staff of most current situation, and provide background on federal response actions.
- Continue to coordinate needs for Program SME presence on conference calls and delegation briefings with EAO.
- Facilitate requests for CODEL ride-alongs and federal response coordination meeting attendance.
- If a declaration is granted, provide information on the makeup of the declaration through e-mail advisory and follow-up phone call, or if necessary, conference calls.

Intergovernmental Affairs Key Actions:

- Continue to update event-specific spreadsheet, including contact lists, outreach, background information and inquiry log.
- Continue to relay messaging to stakeholders in potentially affected areas.
- Continue to coordinate outreach and staffing movements with PR/USVI counterpart.
- Coordinate with potentially affected commonwealth, territorial, and local governments and associations (with PR/USVI government approval).
- Continue to assess staffing needs in field and for JFO.

- Continue to conduct daily outreach to commonwealth, territorial, and local associations to include email advisories/updates/press releases, as well as telephone call-outs and conference calls.

Private Sector Key Actions:

- Continue to coordinate with state PS coordinator(s) or POC on all activities related that involve that PR/USVI.
- Continue to coordinate with DHS Protective Security Advisor.
- Continue to send information pertinent to potentially affected stakeholders through traditional methods (e-mail advisories, etc.)
- Conduct conference calls with all PS stakeholders who request information, as necessary, including but not limited to, shipping (air and sea) companies and corporations that have interests in affected areas.
- Based assessment of need, determine needs for billboard advertising in affected areas.
- Finalize JFO transition binder
- Refine JFO staffing and resource needs; coordinate with Resource Management.

Phase 2c – Sustained Response

End State: Public messaging has been refined to facilitate the transition to recovery.

ESF-15

External Affairs key Actions:

- Monitor human and pet sheltering status
- Monitor possible long-term housing mission and ESF-15 requirements
- Continue to engage all key stakeholders thru appropriate channels.
- At the direction of command staff, key ESF-15 staff will move forward to the JFO or to an Interim Operating Facility.
- Communicate daily with surge staff leadership.
- Coordinate with HQ on situational awareness and staffing gaps/needs.
- Coordinate with JFO development team on needs for ESF-15 build out requirements.
- Transition EA operation at RRCC to the JFO.

Resource Manager Key Actions:

- Coordinate with RMs at surge location(s) to ensure staff accountability.
- Assess staff placement and coordinate any additional Reservist deployments.
- Continue tracking EA accountable property and resources. Assess further needs.
- Continue to maintain and update internal distribution lists, contact lists, staff roster, call down lists and organization charts.
- Continue to format and distribute products to internal, external and Media Vantage lists.

Planning and Products Key Actions:

- Continue liaison contact with activated ESFs
- Develop daily talking points and briefing materials on federal response preparations as needed.
- Implement 3-day strategic communications and messaging plan
- Prepare daily communications summary/EA daily plan and provide to the EAO.

- Ensure information is properly sourced, approved and accurate prior to dissemination.
- Monitor and provide updates/feedback to HQ products and ensure unity of information in RRCC products.
- Support all EA staff on product requirements, including:
 - Talking points/news releases/PSAs/fact sheets/backgrounders
 - Flyers
 - IGA/congressional briefings
 - PS advisories
 - Scripts for video/specialty features
 - Other support materials to other EA components
- Support all EA staff on reporting requirements, including:
 - Regional Support Plan (ESF 5)
 - Situation Report (ESF 5)
 - Daily Communication Summary (ESF-15)
 - Daily Plan (ESF 15)
- Coordinate with Resource Management to ensure timely translation of products.
- Attend daily debriefing/communications calls with field deployed EA staff.
- Coordinate with RDIS for messaging to functional needs audience

Joint Information Center Key Actions:

- Coordinates and responds to media requests and coordinates media events/briefings.
- Conducts daily coordination conference calls with surged staff.
- Continue to disseminate and conduct outreach on federal response and initial recovery messaging through traditional, social media and digital communications.
- Continue media monitoring and issue news clips and analysis, as needed.
- Broadcast Operations (videographer, photographer and producer) cover RRCC activities, surge operations and commodity movements from the Atlanta area as appropriate and upload products to HQ for posting.
- Refines key media lists and assignments in each state based on affected areas and key media markets.

Private Sector Key Actions:

- Refine JFO staffing and resource needs; coordinate with Resource Management.
- Based assessment of need, determine needs for billboard advertising in affected areas.

Phase 3a – Short-Term Recovery

End State: Public messaging content and dissemination mechanisms have begun to transition to pre- incident levels.

ESF-15

External Affairs key Actions:

- Conduct public/private events, workshops, or exhibits in each declared commonwealth or territory in ADA compliant sites to educate and inform the public/private sector on how to get disaster assistance (goal is within the first 21 days of JFO operations).
- Conduct public/ private events, workshops, or exhibits after 21 days of JFO operation, in each declared commonwealth or territory affected in ADA compliant sites to educate and

inform the public about effective personal preparedness measures (i.e., “safe rooms and safe room grants” personal preparedness kits; if operational factors permit, this requirement may be done prior to 21 days) are conducted.

- Develops robust strategic communications plan for recovery efforts.
- Identifies additional staff requirements.
- Prepares After-Action summary.
- Transition all EA/ESF-15 activities to the JFO(s).

Planning and Products Key Actions:

- Program Liaison maintains activated ESFs at the JFO(s).
- Develop daily talking points and briefing materials on Federal disaster assistance as needed.
- Implement 7-day strategic communications and messaging plan

Joint Information Center Key Actions:

- Transition Broadcast Operations (videographer, photographer and producer) from RRCC or surge facility to support field/PDAs/Disaster Recovery Center (DRC) openings.
- Upload products to HQ for posting.
- Continue to disseminate and conduct outreach on federal response and initial recovery messaging through traditional, social media and digital communications.
- Continue media monitoring and issue news clips and analysis, as needed.
- News Desk coordinates and responds to media requests.

Private Sector Key Actions:

- Continue to coordinate with state Private Sector Coordinator(s) or POC on all activities related that involve PR/USVI.
- Continue to coordinate with DHS Protective Security Advisor.
- Continue to send information pertinent to potentially affected stakeholders through traditional methods (e-mail advisories, etc.).
- Conduct conference calls with all private sector stakeholders who request information, as necessary, including but not limited to, shipping (air and sea) companies and corporations that have interests in affected areas.
- Finalize JFO transition binder.

Tab 2 to Appendix 2: Public Health and Medical Services

Federal support of public health and medical services will provide life-saving and life-sustaining medical care to the affected population within and evacuated from the impacted areas. Response operations may be affected by infrastructure damaged by heavy winds, or by localized or widespread flooding and potentially by an overwhelming of the surviving healthcare systems.

Hurricane Public Health and Medical Services Objective: Within 24 hours of safe conditions, have teams on site at PR/USVI specified facilities to provide life-saving, life-sustaining services. (Note this objective is revised from the All-Hazards Plan and is specific only to hurricanes and other tropical cyclones.)

Concept of Operations for Public Health and Medical Services

Due to the limited availability of hardened shelter for personnel and storage for material for a tropical disturbance, the focus would be on limited pre-landfall deployment of teams; consequently, fewer resources would be requested pre-landfall than compared to a another region's hurricane plan. Two 50-person Disaster Medical Assistance Teams (DMAT) (one of which can be configured into two strike teams), two additional strike teams, and one Rapid Deployment Force (RDF) to staff two Federal Medical Stations (FMS) would be deployed pre-incident, with Mobile Acute Care (MAC) strike teams available for immediate deployment and setup at aeromedical points of embarkation (APOEs) should post-landfall aeromedical evacuation (AE) be required.

Post-landfall, one DMAT would be deployed to Centro Medico in San Juan so that the DMAT can provide emergency department (ED) decompression at the hospital, as well as one DMAT to a location TBD by PR Department of Health (PR DOH).

The strike teams would be deployed to provide basic medical care at locations TBD by PR DOH that are well away from the hospitals. (If the second DMAT has no assignment, the team could also be broken into strike teams for this mission.) Due to expected debris and the long travel distances, the goals for the strike teams are:

1. Intercept and reduce the number of potential patients heading to the ED/DMAT
2. Establish a vaccination "clinic" site for tetanus, Hep A, etc.
3. Provide wound care, i.e. suture small wounds, give antibiotics, wound checks, remove sutures, etc.
4. Assess pharmaceutical needs of the community and work with Logistics to fill those without the patient traveling to ED/DMAT to be seen
5. Evaluate need and coordinate use of evacuation of critical patients from remote areas.
6. Provide intel back to Incident Response Coordination Team of anticipated patient numbers headed for ED/DMAT
7. Provide staff augmentation to EMS if needed

Finally, due to the challenges of evacuating patients and populations, we expect to bring healthcare infrastructure to Puerto Rico post-landfall in the form of field hospitals (Blu-Med assets, EMEDS/CSH units), DoD floating assets, etc., in the event of a truly catastrophic incident that significantly damages the healthcare infrastructure in Puerto Rico.

Actions by Phase and ESF

Phase 1a – Monitoring / Normal Operations

End State: Federal public health and medical operations plans have been tested and are readily available.

ESF-5

- Develop public health and medical centric PSMAs and exercise

ESF-8

- Identify gaps in public health and medical services capabilities in PR/USVI and coordinate plans to overcome shortfalls;
- Review response and recovery plans and update with increases or decreases in public or private sector capabilities; and
- Conduct recurring training and exercises.

Phase 1b – Elevated Threat

End State: Trained medical personnel and equipment are inventoried for potential deployment.

ESF-8

- Monitor tropical cyclone threat and review Regional Emergency Coordinator (REC) rosters and availability.

Phase 1c – Credible Threat

End State: Medical caches are staged or ready for deployment and information exchanges with commonwealth and territorial officials have occurred.

ESF-1

- In conjunction with ESF-8, identify transportation corridors available for medical transportation.

ESF-5

- Activate ESF-8.
- Coordinate with ESF-8 on incoming HHS teams and resources that require FEMA Logistics support (e.g.: staging, feeding, fuel etc.).
- Coordinate ESF-8 and Air Operations Branch and the Defense Coordination Element for support of medical evacuations.

ESF-6

- Coordinate with ESF-8 for information sharing of medical evacuees and final disposition of those individuals.
- Request ESF 8 support, as needed, to assess public health and medical needs for shelter-in-place populations, including the needs of at-risk population groups, such as language assistance services for limited English-proficient individuals and accommodations and services for individuals with disabilities that are receiving mass care services.
- Maintain database for shelter population and cross-references with medical evacuation.

ESF-7

- Coordinate with ESF-8 for staging of deployed ESF-8 resources.

ESF-8

- Support ESF-6 by providing expertise and guidance on the public health issues of medical needs populations.
- Identify immediate feeding, hydration, and bulk distribution (including durable medical equipment and consumable medical supplies) requirements for the affected area, and coordinate with Mass Care to support requirements;
- Identify gaps and solutions involving ESF-6 for mass care services that require ESF-8 support;
- Identify blood supply shortages and anticipated exhaustion levels and work with the American Red Cross and blood suppliers to develop strategies to meet these needs;
- Request deployment or redeployment of available Disaster Medical Assistance Teams (DMAT) to address public health shortfalls identified by each impacted PR/USVI;
- Validate operability of existing medical facilities and develop Needs Assessment for deployment of personnel and supplies.
- Establish information sharing with PR/USVI governments to communicate changes in shortfalls.
- Coordinate medical evacuation support as required; subtasks include:
 - Determine PR/USVI patient transportation capabilities,
 - Coordinate with the PR/USVI to designate airports to support patient evacuations,
 - Evacuate and track acute medical needs patients from medical facilities and nursing homes, and
 - Coordinate transportation support with DOD and other Federal agencies.
 - Determine status on Mobile Aeromedical Staging Facilities (MASF) and Disaster Aeromedical Staging Facilities (DASF)

ESF-11

- If requested, assist PR/USVI with managing animal response needs and provide technical assistance.

ESF-13

- Develop assessment and deployment of security support for shelters.
- Coordinate with PR/USVI partners for provision of additional personnel for security at medical staging locations, casualty collection points, and medical evacuation locations.

ESF-15

- Coordinate public information support activities including the public health messaging.

Phase 2a – Immediate Response

End State: Medical personnel have been alerted and initial information about the incident has been collected for preliminary operational analysis.

ESF-1

- Provide ESF-8 with routing information and provide assistance on any air movement of ESF-8 resources.

ESF-5

- Coordinate with ESF-3 and 8 for identification of critical public health care facilities in need of generator assistance.

ESF-7

- Coordinate with ESF-8 for logistical support of deployed/employed ESF-8 resources.
 - Determine commodities for sheltering and feeding
 - Determine staging and fuel support for HHS Teams

ESF-8

- Deploy and maintain situational awareness on deployed and available DMAT teams;
- Re-assess current incident and shortfalls and request additional DMAT teams and other personnel provided by Federal department and agency partners or the contracted options;
- Coordinate with PR/USVI and private sector hospitals to gain situational awareness regarding health and medical conditions; key elements include:
 - Survey available, operable bed space in impacted areas,
 - Coordinate medical and burn unit surge with health care facilities located outside the Region, and
 - Assess damage to hospitals and other key ESF-8 CIKR, including congregate care, hospitals, and emergency medical services;
- Provide and coordinate information with Federal department and agency partners to maintain COP;
- Assist with integration of additional PR/USVI, private sector, and EMAC-deployed resources; and
- Coordinate response for communicable disease control and environmental public health hazards.

Phase 2b - Deployment

End State: Based on information analysis, jurisdictional needs, and operational priorities, resources and personnel have been deployed to provide triage and initial stabilization of casualties.

ESF-8

- Provide medical support to PR/USVI decontamination teams, or other federal partners

- U.S. Public Health teams to provide primary care, mental health, public health services; mass prophylaxis and vaccination; Medical surge; Isolation and quarantine; Epidemiology/surveillance, Environmental Health
- Provide support to ESF-6 in providing Crisis Counseling and disaster case management: Crisis counseling, mental health and other similar immediate, short-term psychological assistance to disaster survivors.
- Deploy Public Health Rapid Deployment Forces, Applied Public Health Teams, Mental Health Teams, Services Access Teams as needed.

ESF-13

- Coordinate with ESF-8 for provision for force protection security.

Phase 2c – Sustained Response

End State: Federal medical response support has supplemented local, commonwealth, and territorial efforts to provide care to those likely to survive their injuries.

ESF-8:

- Integrate HHS pharmacy prescription support for a population if requested by PR/USVI governments.
- Leverage the current status of local medical capabilities, logistics/transportation, local impacts of an incident, and safety and security risk profile to meet the critical medical needs of the affected jurisdictions.
- PR/USVI health care providers and first responders that are not affiliated with a DMAT are notified of review the Medical Reserve Corps and the Emergency System for Advance Registration of Volunteer Health Professionals, and assist where needed.
- Review public health and medical support personnel needs, including Department of Health and Human Services (HHS) DMATs that are traditionally held in reserve or in “unavailable” or “standby” status which could be activated and deployed.
- Maintain coordination of patient evacuations with supporting Federal agencies; when mission is assigned, subtasks include:
 - DOD and the Global Patient Movement Requirements Center may coordinate evacuation of patients from the patient consolidated collection sites to the designated Federal Coordinating Center, and
 - The Joint Patient Assessment and Tracking System provides patient tracking data for any patients moved using the National Disaster Medical System (NDMS).
- Identify areas where objectives have been achieved and reposition or demobilize personnel when appropriate;
- Coordinate additional Federal, commonwealth, territorial, non-governmental organizations (NGO), and private sector health care providers and integrate additional resources to support operations;
- Integrate additional out-of-area resources provided through EMAC and develop strategy for augmenting or replacing the current Federal Government resources employed in the response; and
- Provide reports on the status of medical operations and objectives to maintain the COP.

Phase 3a – Short-Term Recovery

End State: Federal medical response support has begun to transition to pre-incident levels.

ESF-8:

- Coordinate long-term, post-incident public health education campaign with ESF-15;
- Provide support to PR/USVI governments to complete inspection of health care facilities and the repopulation of patients,
- Continue to monitor needs for a public health emergency and waivers of Section 1135 of the Social Security Act to ensure that sufficient health care items and services are available to meet the needs of individuals enrolled in Medicare, Medicaid, and the Children's Health Insurance Program; and
- Determine the status of medical monitoring and public health inspections of mass care facilities.

Tab 3 to Appendix 2: Environmental Response / Health and Safety

Federal guidance will be provided for environmental response and health/safety operations to support the affected communities, responders, and response partners. Localized or widespread flooding may cause additional challenges, and result in additional needs to support operations.

Hurricane Environmental Response / Health and Safety Objective: Deploy adequate environmental response capabilities within 48 hours to impacted jurisdictions to mitigate oil and hazardous substances spills or releases and prepare responders for contact with environmental hazards. (Note this is the same objective as the one in the All Hazards Plan.)

Concept of Operations for Environmental Response / Health and Safety

The Environmental Protection Agency (EPA), the lead agency for ESF-10, routinely responds to chemical, oil, biological, and radiological releases. EPA provides support when requested or when state and local first responder capabilities have been exceeded. Through coordinating and implementing a wide range of activities, EPA conducts removal actions to protect human health and the environment. In carrying out these responsibilities, EPA coordinates with other EPA programs (including the Superfund remedial program), other federal agencies, states, tribes, and local governments. This coordination is done through On-Scene Coordinators and EPA's Special Teams. EPA's response is fairly standardized throughout the United States.

The EPA has the same geographic breakdown as FEMA. EPA Region II is responsible for New York, New Jersey, Puerto Rico, and the US Virgin Islands. The EPA Caribbean office is located in Guaynabo, Puerto Rico.

In the Caribbean, the EPA and US Coast Guard share the responsibilities of ESF-10. They both chair the Caribbean Regional Response Team (CRRT) that is responsible for preparedness activities including planning, training, and exercising to ensure an effective response to releases of hazardous substances and oil spills in Puerto Rico and the US Virgin Islands.

During Phase 1, the EPA and the USCG through the CRRT, provides support and training to commonwealth and territorial agencies, and private sector companies in environmental response and spill countermeasure strategies.

In Phase 2, ESF-10 will conduct debris removal of potential hazardous waste generated by the tropical cyclone. While every attempt is made to identify the owners of the waste, unidentifiable waste removal will be the responsibility of FEMA and the commonwealth or territory.

In Phase 3, ESF-10 will conduct air sampling to ensure that all waste is removed, and that the affected area is back to normal.

Actions by Phase and ESF

Phase 1a – Monitoring / Normal Operations

End State: Ensure the availability of guidance and resources to address all environmental hazards including, but not limited to, hazardous materials (HAZMAT) and natural disasters in support of the responder operations and the affected communities.

ESF-5

- Develop PSMA's with ESF-10 and exercise.

ESF-10

- Ensure the all potential responders have the required pre-requisite personal protective equipment (PPE) training.
- Conduct regular inspections and maintenance of PPE.
- Maintain the availability of resources and adequately trained and equipped personnel engaged in response per Hazardous Waste Operations and Emergency Response (HAZWOPER) 29 Code of Federal Regulations (CFR) §1910.120 to address hazardous materials, acts of terrorism, and natural disasters in support of the responder operations and the affected communities.
- Maintain a stability metric that centers on the ability to establish a safe and secure environment for impacted communities and response personnel engaged in life-saving and life-sustaining operations.
- Conduct recurring training and exercises with potential or pre-identified field response personnel.

Phase 1b – Elevated Threat

End State: Federal environmental response/health and safety resources are identified and inventoried, special environmental risks and safety hazards are identified to the extent possible based on available information, and personnel are trained.

ESF-5

- Ensure FEMA/Office of Safety, Health, Health and Environment issues and guidelines are circulated through all agencies.

Phase 1c – Credible Threat

End State: Environmental response/health and safety resources have been readied for deployment in anticipation of support needed by response workers and the general public, and appropriate contact has been made with local, commonwealth, and territorial officials.

ESF-5

- Activate appropriate ESFs to provide coordination, technical assistance, and response to environmental/health and safety response.

ESF-7

- Coordinate with ESF-10 to determine if additional PPE is required for response
- Prepare and stage personal protective equipment (PPE).

- Deploy PPE to appropriate staging areas.

ESF-10

- Develop staffing plan for required resources that can be mobilized under Federal authorities (Environmental Protection Agency [EPA], U.S. Coast Guard [USCG], etc.);
- Begin protective messaging to responders and develop necessary protective protocols and equipment.
- Coordinate with PR/USVI partners to identify locations of hazardous materials storage, treatment, and disposal sites and other potential areas of releases of oil and hazardous materials;
- Coordinate protective measures for Federal assets being deployed to impacted areas with the On-Scene Security and Protection Capability Group/ESF-13;
- Coordinate public protective messaging with ESF-15, as necessary, including in accessible formats; and
- Determine necessary governmental teams and private sector support requirements and begin deployment and execution of contracts based on consequences and/or PR/USVI requests.

Phase 2a – Immediate Response

End State: Preliminary incident-specific information has been reviewed to determine initial environmental response/health and safety response actions, including the alert, staging, allocation, and mobilization of personnel and equipment.

ESF-3

- Coordinate with ESF-11 and state agricultural partners for potential requirements for the removal of animal carcass debris.
- Begin initial assessment for animal carcass removal requirements as a component of the debris removal mission in conjunction with ESF-3, 8, 10, and 11.
- In coordination with OSHA, begin protective messaging to responders and develop necessary protective protocols and equipment.

ESF-7

- Provide sourcing assistance for response and recovery worker access to required PPE.

ESF-8

- Provide technical assistance, advice, and support for medical surveillance and monitoring as required by regulation (e.g., asbestos and lead).
- Provide needs assessments, technical assistance, advice, and support for short and long-term occupational medical care and health services for response workers.

ESF-10

- Assess environmental conditions caused by the tropical cyclone and determine response priorities;
- Assess requirements for the use of Trace Atmospheric Gas Analyzer vehicles in impacted continental United States jurisdictions if airborne toxins are suspected;

- Assess requirements for the use of Airborne Spectral Photometric Environmental Collection Technology as a remote sensor to detect possible chemical releases and provide responders with additional information;
- Develop a plan prioritizing cleanup of identified HAZMAT incidents;
- The USCG assesses potential impacts from oil spills and develops response deployment plan;
- If a HAZMAT or oil spill has a technical cause or is a consequence of another incident, determine responsible party and assess any response capabilities to mitigate impact.

ESF-11

- Monitor environmental conditions and response activities and conduct sampling to determine impacts on Natural, Cultural, and Historical (NCH) Resources.
- Coordinate with ESF-3 on the removal of debris (when classified as debris) affecting NCH.
- Coordinate with ESF-10 on the removal of debris affecting NCH resources when that debris is contaminated by oil or hazardous material.

ESF-15

- Coordinate public information support activities, including posting environmental data summary results on websites and working with environmental and public health agency partners to develop public messaging regarding the impacts of the environmental contamination and appropriate public protective actions.

Phase 2b - Deployment

End State: Based on initial hazard assessments, Federal technical experts, in coordination with the affected jurisdictions, have identified initial high priority environmental response activities, public protective actions, and responder health and safety protective actions.

ESF-3

- Conduct animal carcass removal as a component of debris removal mission requirements.

ESF-5

- Begin protective messaging to responders and develop necessary protective protocols and equipment.

ESF-10

- Deploy adequate environmental response capabilities within 48 hours to impacted jurisdictions to mitigate oil and hazardous substances and prepare responders for contact with environmental hazards;
- Deploy appropriate personnel and strike teams utilizing MA or existing Federal response and/or funding authorities;
- USCG maintains response plans for every regulated maritime facility and provides necessary response information to the COP if impacted by an incident;
- Identify and evaluate site hazards and provide recommendations for PPE;
- Establish site-specific controls and PPE recommendations;
- Participate in the Joint Information Center and coordinate outgoing messages through Incident Command in coordination with PR/USVI jurisdictions; and

- Coordinate with PR/USVI partners to identify locations of damaged hazardous materials storage, treatment, and disposal sites and other areas of releases of oil and hazardous materials.

ESF-11

- Deploy animal carcass removal resources if carcasses are a result of an animal disease breakout.
- If requested, identify subject matter experts to provide technical assistance regarding proper disposal of animal carcasses.
- Coordinate with ESF-10 on the removal of debris affecting Natural and Cultural Resources and Historic Properties (NCH) resources.
- Perform assessments and surveys to assist with planning and operational decisions (e.g., temporary housing and sheltering plans).

Phase 2c – Sustained Response

End State: Predictive modeling data has been coordinated and disseminated, comprehensive hazard and risk assessments have been performed, and sampling and monitoring data has been collected. Planning, operational analysis, and delivery of environmental response/health and safety requirements have been coordinated across public, private, and nongovernmental sectors.

ESF-3

- Manage, monitor, and/or provide technical advice in the demolition and subsequent removal and disposal of buildings and structures contaminated with toxic elements, in consultation with ESF-10.

ESF-10

- Provide technical assistance to PR/USVI ESFs for environmental hazards affecting populations and responders for incidents;
- Assess hazardous materials locations in impacted areas that may threaten public and responder safety;
- Maintain PPE protocols, as needed, based on HAZMAT conditions;
- Continue operations based on initial assessments; and
- The EPA supports actions to stabilize the release, and prevent the spread of, contamination, including:
 - Sampling the drinking water supply in support of PR/USVI water providers,
 - Stabilizing any oil or HAZMAT release through the use of berms, dikes, or impoundments,
 - Capping of contaminated soils or sludge and use of chemicals and other materials to contain or retard the spread of the release or mitigate its effect,
 - Decontaminating buildings and structures,
 - Removing highly contaminated soils from drainage areas, and
 - Removing drums, barrels, tanks, or other bulk containers that contain oil or hazardous materials.

ESF-11

- Ensure regulated facilities are capable of providing safe meat, poultry, and processed egg products.
- Determine the need for animal carcass removal if carcasses are the result of an animal disease outbreak.
- If requested, continue to provide technical assistance to both ESF-3 (or ESF-10 contractors) and state partners regarding the proper disposal of animal carcasses.

Phase 3a – Short-Term Recovery

End State: Appropriate plans are in place for a smooth transition to local, commonwealth, and territorial officials for any remaining environmental response activities, and any needed Federal advice on continued protection of local, commonwealth, and territorial workers has been provided.

ESF-8

- Evaluate the need for longer term epidemiological follow-up and medical monitoring of response and recovery workers.

ESF-10

- Determine actions to prevent, minimize, or mitigate a release of HAZMAT and oil spills and develop a plan for environmental prioritization and cleanup;
- Continue environmental response/health and safety operations and ensure the correct PPE is selected and modified based on improving or deteriorating conditions; and
- Determine that skilled contracting labor force (e.g., environmental cleanup contractors, utility and infrastructure repair crews) has correct PPE for the conditions.

ESF-11

- Begin the transition to short-term recovery activities associated with stabilization of NCH resources and removal or control of contaminants.
- Monitor for any potential animal disease outbreaks as the result of either improper carcass disposal or secondary effects from the initial incident or cascading effects.

Tab 4 to Appendix 2: Fatality Management

Federal emergency operations will provide coordination and assistance to support local and state mortuary operations and provide fatality management services, including recovery of the deceased and temporary mortuary solutions, particularly those actions resulting from major flooding following hurricane impact.

Hurricane Fatality Management Objective: Make accurate assessment of fatalities in each incident and plan deployment of public and private resources to augment local medical examiners. (Note this is the same objective as the one in the All Hazards Plan.)

Concept of Operations for Fatality Management

Currently, the Institute for Forensic Sciences (IFS) in PR is responsible for conducting mass fatality operations. PR Department of Health has advised that IFS has reported a threshold of 75 decedents in order for there to be a request for Federal mass fatality support.

Recent notable hurricanes:

- Hugo (1989): nine (9) deaths
- Marilyn (1995): two (2) deaths
- Hortense (1996): nineteen (19) deaths
- Georges (1998): between eight (8) and twelve (12) deaths (reports vary)

Fatality management in the US Virgin Islands is the responsibility of the US Virgin Islands Department of Justice. Historically, hurricanes have caused limited deaths (8 during Hurricane Marilyn).

Based on the above data, no or limited use of Disaster Mortuary Operations Response Team (DMORT) would be expected for a hurricane in Puerto Rico or the US Virgin Islands.

Actions by Phase and ESF

Phase 1a – Monitoring / Normal Operations

End State: Federal fatality management plans have been developed and exercised, resources have been procured, and inventories have been updated.

ESF-5

- Develop fatality management centric pre-scripted mission assignments (PSMAs) with ESF-8

ESF-8

- Conduct pre-incident planning with local medical examiner (ME)/coroner(s) to address mortuary space and body recovery shortfalls;
- Develop and maintain plans for bereavement counseling with PR/USVI and community-based mental health NGOs;

- Coordinate Federal protocols to provide PR/USVI support for body recovery and victim identification;
- Conduct training and exercises with Region II ME agencies, Mass Care, and mental health providers; and
- Develop casualty reporting protocols with PR/USVI MEs.

Phase 1b – Elevated Threat

End State: Fatality management personnel are prepared and equipped for deployment.

ESF-5

- Notify ESF-8 of possible activation.
- Pull and review applicable ESF-8 PSMA

ESF-8

- Maintain visibility of Regional Emergency Coordinator (REC) personnel and status.

Phase 1c – Credible Threat

End State: Fatality management caches have been readied for deployment and appropriate contact has been made with local, commonwealth, and territorial, officials. Staging of assets may occur.

ESF-5

- Activate ESF-8
- Request activation of National Disaster Medical System (NDMS)
- Determine need for Mobile Aeromedical Staging Facilities (MASF) and Disaster Aeromedical Staging Facilities (DASF)
- MA ESF-8 to pre-stage Disaster Mortuary Response Team(s) (DMORTs) at established ISBs/FSAs
- MA ESF-7 to pre-stage fatality management supplies (refrigerator trucks, etc.) at established ISBs/FSAs.

ESF-8

- Staff RRCC with RECs
- Identify REC availability and issue an immediate recall (consult on-call list and beyond as needed).
- Coordinate with other primary and supporting departments, agencies, and governments throughout the incident including sending Liaison Officers where appropriate.
- Coordinate/facilitate activation of NDMS
- Coordinate the alert and pre-staging of DMORT(s)

ESF-15

- Support a Joint Information Center (JIC) in the release of general public health response information to the public.

Phase 2a – Immediate Response

End State: Based on preliminary fatality estimates, Federal fatality management resource requirements have been identified and deployed.

ESF-5

- Coordinate with PR/USVI partners to obtain initial fatality impacts and local and commonwealth/territory capabilities.

ESF-7

- Coordinate with ESF-8 for initial assessment of additional fatality management supplies required and coordinate the acquisition of required commodities (refine and continue through all phases).

ESF-8

- Alert/notify, activate, and deploy Disaster Mortuary Operational Response Team (DMORT) to determine exact resources needed to support local ME/coroner;
- Alert/notify and activate DMORT personnel (disaster morgue personnel and Family Assistance Center Team) for deployment;
- Alert/notify the HHS Assistant Secretary for Preparedness and Response to prepare the Disaster Portable Morgue Unit (DPMU) for deployment; and
- Coordinate with mass care services on fatality management to develop support for family reunification for missing persons/remains (this does not include family notification, which is the responsibility of the impacted jurisdiction's ME or designated official).

ESF-9

- Coordinate with commonwealth, territorial, and local officials the location of fatalities (continue through all phases).
- Identify, map and report fatality locations (continue through all phases).

Phase 2b - Deployment

End State: Federal operations have been coordinated with the affected jurisdictions and fatality management resources are on site(s) and operational.

ESF-8:

- Implement plan to deploy public and private resources to augment local MEs;
- Deploy, employ, and maintain situational awareness on DMORT, DPMUs, and other medical assistance teams;
- Determine if additional resources are needed from contracted mortuary support services, including remains and body recovery;
- Develop coordination of family assistance with mass care services agencies, NGOs, or the private sector;
- Coordinate with PR/USVI governments to determine changes in capabilities and anticipated shortfalls; and
- Provide and coordinate information with Federal department and agency partners to maintain COP.

Phase 2c – Sustained Response

End State: Additional mortuary support resource and personnel requirements are identified and fulfilled to maintain a sustained response.

ESF-6:

- Establish a Family Assistance Center for family member interview(s) and assistance in victim identification.
- Provide crisis counseling assistance for family members.

ESF-7:

- Provide support for temporary internment, augmentation of refrigeration capacity, and decontamination for contaminated remains;
- Assess need for mortuary industry call to augment public sector support and coordinate with ESF-15,

ESF-8:

- Validate projection of the number of fatalities using appropriate modeling methodologies;
- Begin employment of DMORT personnel and assets;
- Maintain situational awareness and determine need to rotate mortuary teams to allow personnel to rest and maintain capability;
- Establish and maintain casualty tracking system;
- Coordinate additional Federal, PR/USVI, NGO, and private sector mental health care providers to provide bereavement counseling; and

Phase 3a – Short-Term Recovery

End State: Fatality management operations have transitioned to the identification of remains and the provision of counseling services to the bereaved.

ESF-8

- Retain body recovery and victim identification support to PR/USVI governments;
- Bereavement counseling; and
- Transition any family reunification locations to restored local ME agencies.

Tab 5 to Appendix 2: Infrastructure Systems

Critical Infrastructure and Key Resources (CIKR) are assets, systems, networks, and functions—physical or virtual—that are so vital to the United States that their incapacitation or destruction would have a debilitating impact on security, national economic security, public health or safety, or any combination of those matters. CIKR includes energy supply, transportation, communications/internet, water supply, and health care facilities.

Following a hurricane, coordination across all levels of government and the private sector will be instrumental in infrastructure systems. In particular, efforts should be focused on flood issues resulting from the hurricane, as this may cause damage to or storm water infiltration into the existing water distribution system as well as damage/inaccessibility of roadways. Transportation infrastructure is essential to life saving and sustaining activities. Preserving and restoring these systems is critical to providing potable water, maintaining wastewater and sanitation operations, and supporting firefighting and other emergency services. Utilities, like electricity and natural gas, may also experience distribution problems and could hamper response and recovery efforts.

Hurricane Infrastructure Systems Objective: Assess and prioritize CIKR damaged by incidents and coordinate public and private sector resources that will reduce the further loss of life and services. (Note this is the same objective as the one in the All Hazards Plan.)

Concept of Operations for Infrastructure Systems

Electricity, potable water, and communications are essential to life and will be the focus of this section.

In Puerto Rico, electricity is provided by Puerto Rico Electric Power Authority (PREPA) primarily through petroleum. In 2012, 65% of Puerto Rico's electricity came from petroleum, 18% from natural gas, 16% from coal, and 1% from renewable energy. Water is also provided by PREPA through government owned reservoirs that collect fresh water from rainfall, rivers, and tributaries. PREPA is a public entity with a government appointed/elected board. A majority of Puerto Rico's power generation occurs along the southern coast, thus transmission lines run over mountainous terrain to reach the northern portion of the island making repair and restoration difficult and lengthy.

In the US Virgin Islands, electricity and water are provided by the government entity Water and Power Authority (WAPA) through petroleum and desalination plants, respectively. A majority of the population collect their own water from rainfall which is stored within cisterns on their property. Outages in both power and water supply occur sporadically as a part of island life.

It is important to note that the petroleum necessary to generate electricity and operate desalination plants is barged in from multiple sources. This makes returning shipping lanes (sea ports) a priority for response and recovery efforts.

Communication services are independently addressed in Appendix 4 of this Hurricane Annex.

Preparedness is critical before the threat of a tropical disturbance. The responsibility for ensuring infrastructure systems are prepared to handle a hurricane falls upon multiple agencies like the Department of Homeland Security, the Department of Energy, and the Environmental Protection Agency. Actions and activities include exercises, emergency operating plans, security and power assessments for generators. In phases 1b and 1c, it is FEMA's responsibility to share situational awareness with the private and public sector entities that maintain the infrastructure systems.

The primary Federal agency during Phase 2 is the US Army Corps of Engineers. The Corps provides power assessments for temporary power (as well as installing generators) and construction of temporary bridges and roadways. They are often assisted by the Department of Energy and the Department of Transportation. It is important to note that due to laws and regulations assistance is limited to facilitating restoration, not directly restoring or permanently repairing infrastructure. USACE can provide temporary power generation but they cannot fix transmission lines; fixing transmission lines is the responsibility of the owners. FEMA can mission assign the transportation of power crews to assist in restoration but the work of the power crews is under the authority of the companies they work for.

Temporary power will be provided where most needed first (usually at hospitals, police, fire, continuity of government facilities). Restoration of electricity begins with the ability to generate power, long-distance transmission, then into individual locations. Ultimately, the efforts of preparedness and response activities lead us to Phase 3 where recovery begins. It is here where FEMA's Public Assistance program can reimburse or provide technical assistance for the permanent repair of infrastructure systems.

Actions by Phase and ESF

Phase 1a – Monitoring / Normal Operations

End State: Identification of vulnerable systems (especially those damaged in previous events) is completed;

ESF-5

- Develop new and/or revised Pre Scripted Mission Assignments (PSMAs) or Memorandum of Understanding (MOU) for ESFs, RSFs, and NGOs.
- DHS Protective Security Advisors determine pre-designated work location(s) from FEMA Region II based on anticipated incident;
- Coordinate update of CIKR data sets to be used by Region II during incidents and for modeling;
- Coordinate modeling inputs to assist Region II in making hazard-specific modeling to use during incidents; and
- Public Assistance (PA) Program Managers will provide steady state coordination, technical assistance, and training to state counterparts.
- PA Program Managers will review and approve State annual Disaster Administrative Plans.

Phase 1b – Elevated Threat

End State: Technical personnel and equipment have been identified and inventoried. Operational plans have been refined based on current information.

ESF-5

- *PA Program Managers:* Increase coordination with potentially impacted jurisdictions.
- *PA Program Managers:* Assist PR/USVI partners with EMAC agreements for infrastructure and/or emergency services (ex. Protective measure, technical assistance) as requested.
- Develop initial staffing rosters using ADD and FQS to support IMAT, PDA staff, RRCC, and IOF/JFO operations.
- Develop a potential list of what types of special assistance will be needed.

Phase 1c – Credible Threat

End State: Response actions and resources have been prioritized based on existing catalogues of pre-identified critical infrastructure. Predictive data/models should be consulted to ascertain the potential for damage to CIKR in the threatened area and staging of assets should occur to respond.

ESF-5 (*Public Assistance Program*)

- Provide support to RRCC, ESFs, and OFAs as appropriate through coordination with activated ESFs and OFAs.
- Finalize development of FQS staffing roster to be submitted to Mission Support for deployment. If RRCC is stood up, send staffing roster to the Staff Support Section.
- Increase the frequency of state PA coordination calls.
- If appropriate dispatch PA Program Manager to potentially impacted states if IMAT PA rep is overwhelmed.
- Participate in coordination calls with HQs.
- Analyze pre-storm models using FEMA and USACE modeling programs for potential support by FEMA and/or ESF partners.
- Coordinate with ESFs for anticipated support requirements.
- Field HQs request for regional surge funds for pre staging Joint Preliminary Damage Assessment Teams
- Support potential Emergency Declarations and provide support based upon state requests.
- Under EM declaration fulfill FCO PA requests
- Coordinate with USACE, DOT, Communications, and Department of Energy for RRCC/field staff augmentation.

ESF-1

- Deploy Federal Aviation Administration Liaison Officer to support Air Operations Branch.
- Determine staff available for rapid needs assessment strike teams and activate.

ESF-3

- Notify and deploy Power Planning Restoration Teams.
- Notify and deploy 249th Engineer Battalion
- Utilize Emergency Power Facility Assessment Tool database, and coordinate with ESF-1, ESF-2, ESF-8, ESF-10, and ESF-12 to determine if generator need and installation assessment of critical facilities has already been conducted.

ESF-5

- Activate ESFs 1, 2, 3, 6, 7, 8, 10, and 12
- Request the PSA personnel to support RRCC and for potential deployment with Incident Management Assessment Teams (IMATs) and pre-designated Federal Coordinating Officer (FCO).
- The Infrastructure Branch will coordinate with the Planning Support Section and Geographic Information Systems (GIS) to conduct initial modeling of incident and develop potentially impacted CIKR.
- The Infrastructure Branch will develop initial prioritized CIKR for assessment, and validate with ESF-1, ESF-2, ESF-3, ESF-10, ESF-12, and PSA staff upon arrival.
- Provide prioritized CIKR assessment list to the RRCC Planning Support Section and GIS.
- Coordinate with Defense Coordination Element and Other Federal Agencies (OFAs) for availability of aerial platforms for initial CIKR analysis and needs assessment strike teams.
- The Planning Support Section will coordinate with the National Response Coordination Center (NRCC) for the activation of the Interagency Remote Sensing Coordination Cell and provide the prioritized CIKR assessment list.
- In conjunction with RRCC Planning Support Section and PR/USVI partners, the Infrastructure Branch will develop a staffing, deployment, and information collection plan for the rapid needs assessment strike teams based upon aerial platform and staff availability.

ESF-6

- Develop an initial list of critical facilities such as shelter facilities and commercial kitchens for rapid needs assessment to support mass care.

ESF-7

- Based upon GIS modeled impacts, coordinate with NRSC for the ordering of generators.
- Coordinate with ESF-1, ESF-5, and DOD for identification of locations of staging areas and air operations facilities based upon available locations.
- Activate fuel contracts.
- Source, contract, or mission assign for water.
- Stage generators at ISBs

ESF-8

- Develop initial list of major medical facilities for rapid needs assessment and provide to Infrastructure Branch.

ESF-10

- Determine staff available for rapid needs assessment strike teams and activate

ESF-12

- Determine staff available for rapid needs assessment strike teams and activate.
- Establish and maintain contact with providers in PR/USVI.

ESF-13

- Determine staff available to providing additional site security to CIKR if requested by PR/USVI partners.

ESF-15

- Will provide public messaging throughout all phases regarding status of CIKR and efforts to stabilize and reestablish functionality, and public safety messages related to CIKR.

Phase 2a – Immediate Response

End State: Based on preliminary information about the incident's impacts on critical infrastructure, immediate resource needs have been identified and coordinated across the public and private sectors. Response personnel have been deployed for assessments and additional assets are readied for deployment to affect repair and restoration.

ESF-1

- Coordinate with Air Operations Branch for use of aerial platforms (manned and un-manned) in conducting CIKR impact analysis immediately following an incident.

ESF-2

- Coordinate with private sector partners to determine communication outages and status of back-up resources (generators, fuel, etc.) and provide technical assistance as requested.

ESF-3

- Provide staff for rapid CIKR assessment
- Coordinate with PR/USVI partners for prioritized generator installation and cross-check against generator pre-screened facilities
- Coordinate with PR/USVI partners for CIKR debris clearance priorities

ESF-5

- Coordinate with ESF-1, ESF-2, ESF-3, ESF-10, ESF-12, and PSA staff for deployment of staff to execute CIKR rapid assessment plan.
- Coordinate with ESF-1 and ESF-13 for safe transportation of needs assessment personnel to either staging areas or air operations branch sites.
- Coordinate with PR/USVI partners to begin determining the re-entry standards/requirements for private sector facilities. Ensure the engagement of the ESF-15 private sector liaison.

ESF-7

- In conjunction with PR/USVI partners, provide fuel for first responders through a fuel contract or interagency agreement.
- In conjunction with PR/USVI partners, provide water for communities without water service via contracting or mission assignment.

ESF-8

- Regional Emergency Coordinators will coordinate with PR/USVI partners to determine status of major medical facilities.

ESF-10

- In coordination with rapid needs assessment strike teams, identify and prioritize HAZMAT CIKR sites for inspection.

ESF-12

- Conduct initial analysis of cascading effects for major power production or distribution system failures.
- Provide initial estimate of power outages and projected repair times to RRCC Planning Support Section and the National Response Coordination Center within four hours of the incident.

ESF-13

- Deploy requested staff to provide additional CIKR site security as requested.

Phase 2b - Deployment

End State: Operational plans have been updated and coordinated with the public and private sectors to stabilize and repair critical infrastructure. Resources are beginning to enter the area and perform stabilization actions.

ESF-3

- Coordinate installation of generators at prioritized sites that enable life-saving/life-sustaining activities.
- Conduct post-landfall infrastructure and public work assessments.
- Conduct Debris Management and Technical Assistance for removal and final disposal. (continue through all phases)

ESF-5

- Execute the rapid needs assessment plan in conjunction with ESF, OFA, and PR/USVI partners. As site assessments are reported, develop prioritized list of CIKR for rapid debris removal, stabilization, and restoration/repair, technical assistance, or priority monitoring (private sector facility) based upon immediate and cascading impacts.
- Coordinate with ESF-1, ESF-2, ESF-3, ESF-10, ESF-12, and PSA staff for restoration of public CIKR and maintain awareness of private CIKR stabilization/restoration efforts.
- Ensure tracking for restoration of essential community services (i.e. SWEAT-Sewer, Water, Electricity, and Transportation) in support of PR/USVI priorities is established (goal is within 72 hours of the declaration).

ESF-7

- Continue to stage and distribute resources from ISBs that are critical to stabilizing and restoring CIKR (continue through all phases).

ESF-8

- Regional Emergency Coordinators will coordinate with PR/USVI partners for prioritizing major medical CIKR in need of stabilization/restoration assistance.

ESF-10

- Develop prioritized HAZMAT CIKR for remediation and technical assistance.

ESF-13

- Continue to coordinate and provide site security presence at CIKR.

Phase 2c – Sustained Response

End State: Site surveys and damage assessments have been completed. In coordination with the private sector, activities to stabilize existing infrastructure, support facilities, and evacuation processing centers have been completed

ESF-3

- Install generators at CIKR sites as determined by PR/USVI partners and as rapid needs assessments are completed.

ESF-5

- In conjunction with ESF-1, ESF-2, ESF-3, ESF-10, ESF-12, PSA, Federal Disaster Recovery Coordinator, and Unified Coordination Group, begin developing long-term recovery plans.

ESF-7

- As demand decrease, deactivate commodity contracts, orders, or mission assignments.
- As able, consolidate ISB/FSA activities.

ESF-12

- Provide updated power outages and predicted restoration times.

Phase 3a – Short-Term Recovery

End State: Temporary repairs to critical infrastructure have been completed. Long-term repair and restoration of public and private sector projects have transitioned to Recovery.

ESF-3

- Participate in initial development of long-term recovery plan for public CIKR.

ESF-5

- Demobilize/transition RRCC ESF staff to JFO.
- Coordinate with NDRF staff for development of ESF/RSF transition plan.
- Conduct all kick off meetings and ensure mitigation participation at meetings (goal is within 21 days of approval of Request for Public Assistance).
- Inform applicants that they must identify and report all damage to FEMA within 60 days of kick off meeting.
- Implement PA Program through Stafford Act.
- Provide flood risk data to Individual Assistance (IA), National Processing Service Center (NPSC), and PA staff to assure risk considerations are weighed into decision-making process.

Tab 6 to Appendix 2: Mass Care / Emergency Services

Operations for this core capability following a tropical cyclone will be directed towards those populations requiring lifesaving and life sustaining mass care and emergency assistance support. Response and recovery plans should be inclusive of persons with disabilities (physical, sensory, cognitive, behavioral and/or chronic conditions), persons with access and functional needs (non-English speaking, limited English proficiency, persons in institutionalized settings, the elderly, children, persons from diverse cultures, and the transportation disadvantaged), service animals, and household pets as defined by the Pets Evacuation and Transportation Standards Act of 2005. Infrastructure damage following the storm may impact existing plans for shelter locations and ability to support them, reunification efforts, points of distribution locations and types of mass care and emergency service support required.

Hurricane Mass Care / Emergency Assistance Objective:

Deploy mass care services for up to 25 percent of the impacted population. (Note this is the same objective as the one in the All Hazards Plan.)

Concept of Operations for Mass Care / Emergency Services

Mass Care response capability and procedures in the Caribbean are unique compared to the rest of the continental United States. Due to the distance from the rest of the United States, both Puerto Rico and the US Virgin Islands have increased logistical challenges to provide Mass Care support and are reliant on pre-landfall staging of assets and commodities to be able to immediately respond in a major or catastrophic event. Within the logistical challenges for the Caribbean is the turnaround time, or burn rate, of commodities and their timely request to continue support services to the impacted population.

The shelters in the Caribbean are designed primarily to provide Mass Care services for at risk populations. These individuals are often those with access and functional needs or live in isolated areas that are prone to flooding, mudslides, and landslides. The rest of the general population is known to shelter-in-place during a storm. Both Puerto Rico and the US Virgin Islands may request Federal assistance to support mass care services pre-landfall of a major hurricane. In addition to the at risk population requiring mass care services, the rest of the general population would most likely seek out assistance for commodities and shelter. It is anticipated that infrastructure of essential utilities will be out of service for extended periods of time.

Puerto Rico

In Puerto Rico, the commonwealth's agency responsible for Mass Care support is the Department of Housing, which coordinates that responsibility with 21 other commonwealth agencies and organizations. The Department of Housing is the lead agency in the management and administration of the shelter operations for the commonwealth. There is a pre-identified network of approximately 3-5 certified shelters facilities per each of the 78 municipalities, which

92% of these are public schools. The Commonwealth has a signed Memorandum of Agreement (MOA), for the full implementation of the FEMA National Shelter System (NSS).

Currently, the Commonwealth constituted a Household Pets Task Force which is led by the Department of Natural Resources. The Task Force is in the process of developing a framework that can assist the municipalities with operational strategies in support of household pets and service animals in disaster. Deployment of subject matter experts would be advisable to support this mission.

The Commonwealth is in the process of reconvening their Emergency Housing Task Force in order to focus on the development of an Emergency Housing Plan. The PR Department of Housing is the lead agency in this initiative and will be the entity implementing the emergency housing strategy.

The PR Department of Health is the lead agency for the Access and Functional Needs Task Force. An accomplished strategy performed by the Task Force is the development and implementation of the Access and Functional Needs Voluntarily Registry. The Registry was released to the public on October 2013 and they can register through the state's 311 system. The Registry was designed as a planning mechanism and to serve as an additional tool to support the need of the community.

US Virgin Islands

In the US Virgin Islands, the territorial agency responsible for Mass Care support is the Department of Human Services, and which coordinates that responsibility with 12 other territorial agencies and organizations. There is a pre-identified network ranging from 9-13 shelter facilities per island which are certified annually. The Territory has a signed Memorandum of Agreement (MOA), for the full implementation of the FEMA National Shelter System (NSS). However utilization of the NSS needs to be validated with the Department of Human Services since shelter operations are supported by the American Red Cross (ARC) therefore shelter information is uploaded into the ARC NSS.

The animal care providers in the Territory have a partnership with the Department of Agriculture to address animal control which can be built on to support household pets and service animals in disasters. However, an operational strategy needs to be developed to support household pets and service animals and it would be advisable to deploy subject matter experts to support this mission.

The Territory instituted an Emergency Housing Steering Committee to develop an Emergency Housing Plan. The Virgin Island Housing Finance Authority is tasked with the development and implementation of the Plan. Currently, the Plan is in a draft version and diverse temporary and long term housing options were reviewed. The draft and housing options are pending public and governmental vetting.

The Department of Human Services acknowledges that Functional Needs Population have many unique challenges. Although a Functional Needs Population Task Force is not configured, in

2006 the Department of Health in coordination with Human Services developed a database by island that identifies functional needs population which in case of a disaster will be requiring transportation assistance to evacuate.

Actions by Phase and ESF

Phase 1a – Monitoring / Normal Operations

End State: Personnel have been trained, mass care plans have been developed and reviewed, and commodities and services and sources have been identified, and/or procured and inventoried.

ESF-6

- Participate in maintenance of the All-Hazard Plan and procedures.
- Conduct mass care and emergency assistance planning with stakeholders for 25 percent of an impacted population, their service animals and pets.
- Identify mass care human and material resource gaps based on information from stakeholders
- Establish Memorandums of Understanding, Memorandums of Agreement, blanket purchase agreements, contracts, and PSMA's.
- Maintain contact with PR/USVI governments and NGOs that supply mass care and emergency assistance subject matter expertise.
- Update jurisdictional Mass Care Support Services Plan.
- Annually review with States locations of shelters and provide data to GIS for coding.
- Participate in state plan reviews and development, work groups, and task forces.
- Develop public preparedness messaging.
- Determine existing logistics and resource capabilities.
- Identify procedures for the activation/request or need of the Mass Care Assessment Teams.
- Conduct training and exercises to validate existing plans.
- Validate NSS shelter and feeding commodities data.

Phase 1b – Elevated Threat

End State: Mass care plans, trainings, and exercises have been reviewed and updated to build, sustain, and improve existing operational capabilities.

ESF-6

- Mass Care Program Specialists and Voluntary Agency Liaisons (VAL) will conduct outreach to their counterparts in the potentially impacted areas in regard to sheltering, mass care and emergency services capabilities and preparedness activities.
- Participate in State and Voluntary Organizations Active in Disaster (VOAD) conference calls
- Coordinate with Resource Support Section (RSS) to identify additional NGO/OFA requirements for RRCC and possible IMAT support.
- Begin to engage coordination with ESF-8 for medically fragile population monitoring.
- Initiate communications with mass care service providers (ESF-8, HHS/Administration for Children and Families; ESF-11/USDA; American Red Cross, etc.) and Regional Disability Integration Specialist (RDIS) to discuss potential needs for support based on shared situational awareness (e.g., support for individuals with disabilities and others with access

and functional needs, children, human needs assessments, household pets and service animal support).

- Review historical data pertinent to the potentially affected area.
- Monitor shelter information, including:
 - Status (open, standby, impacted), location, type (e.g., pet-friendly, Americans with Disabilities Act-compliant, generator capability, cleared as structurally sound).
 - Operating agency (i.e., government-run, NGO, spontaneous).
 - Capabilities/capacities (e.g., number of sheltered/number of available spaces, ability to cook).
 - Requirements: additional staffing, equipment, supplies, food, hydration facilities, hygiene, sanitation, communications, and power.
 - Advanced support, including need for personal assistance services, durable medical goods, translators, interpreters, and security.
 - Identify sheltering arrangements that allow households pets within shelters or adjacent to shelter sites.
 - Communicate with, and give guidance to, ESF-15 stakeholders and FEMA's community partners to communicate to the affected population such things as:
 - Availability and location of mass care services, resources, and guidance, and
 - Instructions on what one should need/have/bring when evacuating and evacuation information, taking into consideration access and functional needs (including children, elders, transportation challenges, seniors, persons with limited English proficiency; people with cognitive and mobility disabilities; and household pets and service animals).
 - Provide information for population that would shelter in place, including boil water alerts, sanitation information, recommended hydration per day, etc.

Phase 1c – Credible Threat

End State: Identify anticipated mass care and housing support needs and resource requirements, in coordination with public, private, and nongovernmental partners.

ESF-6

- Coordinate Region II ESF-6 activities when RRCC is activated.
- Provide NRCC mass care desk with situational awareness.
- Request mass care support from ESF-8 and 11 as well as the American Red Cross.
- Request guidance from the Regional Disability Integration Specialist (RDIS).
- Develop Mass Care staffing plan and request appropriate resources
- Respond to activation of deployment of Mass Care with IMAT and/or other requests for Federal mass care services at PR/USVI Emergency Operations Centers (as appropriate).
- Participate in joint conference calls with stakeholders for situational assessment and awareness, including:
 - Responding NGOs (including the American Red Cross as the Mass Care co-lead),
 - IMAT and other Federal partners (e.g., USDA, HHS, DOD, EPA, USACE),
 - PR/USVI mass care services agencies (ESF-6 and -11 equivalents)
 - Disability agencies and organizations, and
 - Other NGOs and the private sector.

- Prioritize and coordinate mass care services and resources for congregate sheltering and potential shelter-in-place populations, prioritizing for survivors with mass care needs including, but not limited to:
 - Hydration and feeding
 - Consumable and durable medical goods
 - Baby food, formula, and supplies
 - Pet supplies such as food, leashes, and cages
- Assist survivors who may not have evacuated, including:
 - Coordinate with ESF-7 on additional capabilities to transport identified populations, support required pet evacuation, provide reception capabilities, and maintain tracking of evacuees
 - Coordinate transportation to pre-identified shelters and warming/cooling centers, and
 - Refer to ESF-8 if emergency medical needs are required
- Coordinate shelter operations support
- Begin reporting shelter numbers into the National Shelter System (NSS) to identify trends in shelter population fluctuations, shelter openings, shelter closings, and State governments anticipating future resource needs
- Coordinate with VOAD members and other mass care service providers to identify available inventory of mass care resources and fill any shortfalls

ESF-7

- Provide resource support for mass care services as requested by the state.
- Coordinate with VOAD members and other mass care service providers to identify available inventory of mass care resources and fill any shortfalls.

ESF-15

- Provide public messaging to survivors on disaster related information (evacuation routes, shelter locations, etc.).

Phase 2a – Immediate Response

End State: Based on preliminary situational reports, Federal personnel and resources have been activated to support evacuation and mass care requirements, in close coordination with whole community partners

ESF-3

- Execution of support contracts to provide potable water and emergency power (if required).

ESF-6

- Participate in conference calls with mass care stakeholders for situational awareness
- Participate in mass care and emergency assistance state-led task forces
- Determine operational priorities and goals to support mass care and emergency services
- Determine areas impacted
- Identify shelter-in-place locations, populations, and needs, including persons with disabilities and people with access and functional needs
- Convene Congregate Care Coordination Unit (CCCU) to support analysis of congregate care facilities
- Establish priorities for Mass Care support and/or operations

- Coordinate ongoing mass care services with all parties providing mass care support (such as voluntary agencies, faith-based organizations, community-based organizations, and Voluntary Organizations Active in Disasters) regarding the impacted populations, prioritizing for survivors with acute mass care needs.
- If appropriate request and deploy medical resources to secure health and medical support at shelters and other mass care facilities as requested by the state
- Support applicable planning for the next operational phase(s), including:
 - Number of meals capable of being produced and manner of distribution
 - Identify the ability to provide hydration to impacted populations
 - Identify need for bulk distribution items and develop plan for accomplishing task
 - Analyze locations of impacted individuals who have either congregated in one area or have sheltered in place, and develop plan to provide mass care
 - Determine the burn rates for each of the resources and acquisition timeline
- Coordinate with ESF 7 the delivery of shelter and emergency supplies to staging areas in an effort to support shelters, PODs and shelter in place population.
- Identify the reunification plan being utilized and provide information on available federal resources to support this.
- Continue reporting shelter numbers into the National Shelter System (NSS) to identify trends in shelter population fluctuations, shelter openings, shelter closings, and State governments anticipating future resource needs.
- Continue to monitor and assess Mass Care needs and resource requirements
- Develop planning metrics for 3, 5, 7 days out that will outline human and material resource requirements.

Phase 2b - Deployment

End State: In coordination with the affected jurisdictions, Federal mass care support resources and personnel requirements are prioritized, and deployed/sustained to support the affected area.

ESF-6

- Validate staffing pattern identified during phase 1C and request additional resources as necessary
- Activate and deploy mass care assessment teams and mass care personnel (including contractors and other support personnel)
- If requested, mobilize mass evacuation support staff, including food, hydration, information, and reunification, as well as assist with tracking the movement of evacuees, household pets, luggage, and durable medical equipment through deployment of the National Mass Evacuation Tracking Systems (NMETS)
- Manage/provide support for unsolicited donations and unaffiliated volunteers
- Evaluate the feasibility of non-traditional sheltering methods (e.g., private sector solutions, soft-sided shelters, small-sized portable/collapsible shelters)
- Provide public messaging to survivors on disaster related information (reunification, additional shelter locations, voluntary agency assistance, etc.)
- Initiate Preliminary Damage Assessments (PDAs), if required
- Implement Individual Assistance and Human Services programs, if required

ESF-15

- Provide public messaging to survivors on disaster related information (reunification, shelter locations, voluntary agency assistance, etc.).

Phase 2c – Sustained Response

End State: Additional Federal resources have been delivered to the affected area. Life-sustaining services have been provided in close coordination with whole community partners. Eligible survivors have begun to receive relocation assistance or interim housing. Reunification services have been provided to reunite the missing with family members and caregivers.

ESF-1

- Coordinating routing of life-saving/sustaining resources being pushed into areas where survivors are sheltering in place.

ESF-3

- Provide technical support to IA-Technical Assistance Contract (TAC) and ESF-6 on housing planning and strategies.
- Implement Blue Roof Mission to include ACI contracts (as required).

ESF-6

- Push and coordinate requested resources through the government and NGOs to those affected populations that need acute mass care resource support.
- Ensure the continued delivery of emergency relief supplies to shelters and PODs to support congregate care as well as shelter-in-place population.
- Coordinate with the RDIS and DSA to identify impacted persons with disabilities and access and functional needs that have not been addressed.
- Coordinate with Logistics to implement sanitation assistance for shelters, mass collection points, and evacuation points.
- Identify additional members of a multiagency CCCU and begin deployment; the unit performs the following subtasks:
 - Monitor delivery of mass care services and ensure needs of all survivors are being met, including persons with functional/access needs and people with household pets and/or service animals,
 - Identify unmet needs in shelters,
 - Identify needs of persons who have sheltered in place voluntarily or involuntarily and the needs of underserved populations or isolated areas,
 - Review findings of these teams and resolve issues, and
 - Provide/coordinate needed resources to appropriate agencies.
- Coordinate support to PR/USVI ESF-6 agencies and NGOs with increased capacity to produce hot meals when operationally practical.
- Coordinate and calculate logistical support with ESF-7 for feeding by factoring in two shelf-stable meals per day and hydration (hydration should be calculated at four liters per person per day).
- Refer patients with acute health and mental needs to appropriate PR/USVI service providers.
- Support NGO mobile feeding capabilities to meet mass care services objective.
- Monitor the need for federal support for the delivery of emergency relief supplies to shelters, PODS, and shelter-in place population.

- Continue to supply mass care and emergency assistance data to relevant stakeholders.
- Maintain sheltering/NSS reporting schedule.
- Coordinate hydration, meals, mental health counseling, and family reunification support to survivors while they are awaiting notification of missing or dead, as requested by the Fatality Management Services Capability Group.
- Deploy additional resources to the field or reposition current resources based on a shared situational awareness and the status of completed objectives.

ESF-7

- Deploy additional resources to the field or reposition current resources based on a shared situational awareness and the status of completed objectives.

Phase 3a – Short-Term Recovery

End State: Non-congregate housing alternatives have been identified to facilitate the transition of survivors from congregate shelter. Relocation assistance and/or interim housing solutions have been provided to applicable recipients. Mass care activities have transitioned to support the longer-term needs of survivors, and demobilization of Federal resources has begun.

ESF-6

- Continue to report meals delivered, meals served, snacks served and feeding plans (fixed and mobile)
- Continue to report state supplied shelter numbers
- Adjust feeding operations to include increased mobile or fixed feeding sites based on analysis of shelter populations that remain overnight and those that visit for feeding only;
- Coordinate access to emergency assistance for survivors in shelters, those who have sheltered in place, and those without transportation;
- Identify additional needs that can be met by mass care/emergency assistance services, including:
 - Health and mental health support,
 - Spiritual care,
 - Provision of ongoing hygiene needs, including laundry and clothing, and
 - Support planning for, and coordination of, resources to meet these needs
- Support recovery planning, including re-entry planning for survivors in shelters and/or without transportation;
- Ensure re-entry is supported by household distribution of food, the Disaster Supplemental Nutrition Assistance Program, mobile feeding, and bulk distribution of relief supplies;
- Coordinate public outreach with ESF-15, updating impacted areas on availability of mass care services;
- Work with impacted governments to determine any mass care items they anticipate requesting from FEMA to provide support to Points of Distribution; and
- Coordinate planning regarding mass care support to Disaster Recovery Centers, Family Assistance Centers, etc.
- Consolidate task forces and staffing to reflect decreased delivery of mass care and emergency assistance activities

ESF-15

- Provide public messaging related to available disaster assistance (i.e. FEMA 800 number).

Tab 7 to Appendix 2: Mass Search and Rescue Operations

Federal search and rescue resources may be deployed to the affected areas to augment the local, commonwealth, territorial resources in the affected area and perform operations to save lives in flooded and damaged areas.

Hurricane Mass Search and Rescue Operations Objective: Prior to landfall, stage anticipated required resources and personnel at the incident support base or facility as requested by PR/USVI. (Note this objective is revised from the All-Hazards Plan and is specific only to hurricanes and other tropical cyclones)

Concept of Operations for Mass Search and Rescue

Search and rescue a commonly thought of core capability that both Puerto Rico and the US Virgin Islands is keenly aware of. Puerto Rico has a Search and Rescue Task Force that is trained to FEMA standards, although not part of the national system. The US Virgin Islands has a small, but robust volunteer team.

National procedure indicates that an Incident Support Team and three unique task forces are on stand-by; this configuration remains on-call for deployment within a short time frame. Logistical challenges exist when deploying to the Caribbean. Assets must be delivered via airframe. Maritime search and rescue is under the authority of the US Coast Guard and will be coordinated out of Sector San Juan.

Actions by Phase and ESF

Phase 1a – Monitoring / Normal Operations

End State: Local, regional, and national Search and Rescue (SAR) personnel are inventoried and trained.

ESF-9

- Conduct SAR training;
- Maintain SAR equipment and supplies in a ready posture;
- Validate with PR/USVI governments the availability of specialized SAR teams (e.g., water rescue, cave rescue, etc.); and
- Maintain call-down lists for these SAR teams.

Phase 1b – Elevated Threat

End State: Personnel have been placed on stand-by (issued a Warning Order). Potential locations are identified.

ESF-5

- Establish and maintain situational awareness and a common operating picture.

Phase 1c – Credible Threat

End State: Personnel and resources have been identified and deployed to staging areas.

ESF-1

- Identify temporary alternative transportation solutions that can be implemented by others when systems or infrastructure are damaged, unavailable, or overwhelmed.
- Perform activities conducted under the direct authority of Department of Transportation elements as they relate to aviation, maritime, surface, railroad, and transportation to assist in the deployment of the mass search and rescue assets, including movement within the areas of operations.

ESF-3

- Be prepared to support National Urban Search and Rescue teams as necessary (including structural assessment teams, damage assessments, and advisors to local jurisdictions and other Federal agencies.)

ESF-5

- Coordinate and execute mission assignments for Logistics Management and Resource Support and other Federal resources required by SAR to support field operations;
- Coordinate through the FEMA Movement Coordination Center for transportation of personnel and equipment;
- Coordinate, request, and employ structural, sea, or air-based teams to accomplish the mission through Urban Search and Rescue (US&R);
- Coordinate the staging of resources.

ESF-7

- Provide logistical support to Urban Search and Rescue elements (continue through all phases).

ESF-9

- Obtain and maintain a COP and situational awareness;
- Headquarters US&R Program Office assigns US&R liaison officer to RRCC;
- Employ the Regional SAR group (e.g., USCG, Department of Defense [DOD], CBP, Department of Transportation, Federal Aviation Administration) to interface with the Federal SAR Coordination Group (Department of the Interior, DOD, USCG, FEMA), the impacted State(s) or territorial ESF-9, and air branch to determine which agency has the best capability to meet requirements;
- Activate and stage one or more US&R Incident Support Team (IST) to each affected jurisdiction;
- Activate U.S. Army Corps of Engineers (USACE) structural specialist support for US&R task forces for deployment to, and employment in, the affected area;

Phase 2a – Immediate Response

End State: Personnel and resources have been deployed to the impacted area. Coordinated SAR operations have begun.

ESF-1

- Monitor and report status of and damage to the transportation system and infrastructure as a result of the incident.

ESF-3

- Provide structural engineering expertise in support of search and rescue efforts to ensure the safety of responders and/or survivors.
- Assist with debris removal to allow US&R teams to gain access to survivors trapped within collapsed structures.

ESF-5

- Monitor ESF-9 progress and coordinate with NRCC for additional resources.
- Integrate the ISTs into or establish ESF-9 under the Operations Section, Emergency Services Branch.

ESF-9

- Employ one or more US&R Incident Support Team (IST) to each affected jurisdiction from the Staging area.
- Initiate airborne SAR within four hours following the tropical cyclone.
- Designate Federal staging bases with ESF-7 for structural US&R task forces in proximity to impacted areas and deploy the US&R structural teams to staging areas.
- Coordinate the mission assignment of other Federal SAR resources.
- Coordinate with the Defense Coordinating Element the deployment of DOD SAR assets.
- Assess on-scene security needs for deploying teams and coordinate requirements with the On-Scene Security and Protection Capability Group/ESF-13.
- Maintain situational awareness of FEMA US&R resources and other mission-assigned or mutual aid SAR resources.
- Identify self-deployed Federal air and sea SAR assets and begin coordination of assignments for next operational period.

Phase 2b - Deployment

End State: Additional Federal personnel and resources have been deployed to conduct community- based search and rescue operations, supplementing existing regional and national teams.

ESF-8

- Coordinate with the Incident Commander and the assigned Incident Management Assistance Team to move the rescued and/or injured.
- Respond to medical needs associated with physical and mental health, behavioral health, and substance abuse of both incident survivors and response workers.

ESF-9

- Support PR/USVI requests for additional search and rescue resources.
- Continue to evaluate incident objectives, assess priorities, and determine what additional resources will be required.
- Continue employment in accordance with Incident Command and UCG priorities and instructions (continue through all response phases).
- ISTs and TFs implement plans for internal sustainment.
- ISTs plan and coordinate the rotation of the teams, if necessary.
- USCG continues maritime SAR, as necessary.
- DOD and/or NPS continue land SAR operations, as necessary.
- Establish a coordination group with PR/USVI SAR, law enforcement, and firefighting to include ESF-3, 4, 7, 9, and 13 to identify available CERT groups and personnel to receive “just-in-time training” for low risk search and rescue operations.

Phase 2c – Sustained Response

End State: Final SAR operations have been conducted, utilizing surge capacity, as needed.

ESF-9

- Conduct SAR operations and address any shortfalls;
- Assess team status and rotate US&R teams and other SAR resources to allow personnel to rest and maintain capability;
- Assess initial deployment and determine if additional resources are necessary.

Phase 3a – Short-Term Recovery

End State: SAR operations have concluded and remaining activities are transitioned to recovery operations.

ESF-9

- Demobilize assets based on IST analysis of objectives achieved and reposition or demobilize personnel when appropriate.

Tab 8 to Appendix 2: On-Scene Security and Protection

Federal responders supporting local, commonwealth, and territorial safety and security resources within the impacted area may be utilized to perform operations to save lives in flooded and tropical cyclone damaged areas. Overall, it is accomplished through the coordinated delivery of: general law enforcement assistance through the provision of additional officers, traffic and crowd control, site security, and access control to specific sites and/or facilities. A safe and secure environment is essential.

Hurricane Mass Search and Rescue Operations Objective: Prior to landfall, stage anticipated required resources and personnel at the incident support base or facility as requested by PR/USVI. (Note this objective is revised from the All-Hazards Plan and is specific only to hurricanes and other tropical cyclones.)

Concept of Operations for On-Scene Security and Protection

Historically, requests for Federal law enforcement support have been requested in both jurisdictions after catastrophic hurricanes. The Department of Justice is the lead for Emergency Support Function 13 and will use, as needed, any Federal partner capable of providing law enforcement services. While there is no anticipated challenge with providing Federal law enforcement in Puerto Rico, there is legislation prohibiting Federal law enforcement officers from performing local law enforcement activities in the US Virgin Islands. The US Department of Justice is currently working with US Virgin Islands legislators in resolving this issue.

Phase 1 activity is limited to monitoring and preparedness actions. In Phase 2 there will be limited deployment of Federal law enforcement personnel to provide force protection to federal responders. There is a potential for Phase 3 utilization of Federal law enforcement personnel in both jurisdictions. The situations should be constantly monitored to be proactive in deployments.

Actions by Phase and ESF

Phase 1a – Monitoring / Normal Operations

End State: Plans, checklists, interagency agreements, and contracts have been reviewed and revised as necessary; private sector partners have been integrated into teleconferences and planning meetings.

ESF-5

- In coordination with PR/USVI partners and ESF-13 representatives, develop Public Safety and Security focused PSMA's and participate/initiate exercises.

ESF-13

- Validate Emergency Management Assistance Compact (EMAC) agreements between Puerto Rico and the US Virgin Islands and determine if Federal support is required to facilitate agreements (e.g., critical transportation of assets);
- Coordinate with ESF-13 primary and support agency workshops with PR/USVI law enforcement agencies to determine likely on-scene security and protection needs during a catastrophic hurricane;
- Conduct recurring training and exercises with personnel; and
- Maintain equipment.

Phase 1b – Elevated Threat

End State: Select resources have been pre-positioned, and updates on commodities, facility status, personnel, and other FEMA and partner assets have been provided to deliver shared situational awareness.

ESF-5

- Coordinate with and alert RELC, ESF-13 representative, and/or Field Coordinators for possible RRCC staffing.

Phase 1c – Credible Threat

End State: Assets have been positioned, as appropriate, through coordination with local, commonwealth, and territorial jurisdictions with, the private sector; and other stakeholders. Real-time information is utilized to prepare an enforcement plan.

ESF-1

- Initiate deployment of Transportation Security Forward Team (Transportation Security Officers) if required by the Transportation Security Advance Team.

ESF-5

- Activate ESF-13
- Coordinate the provision of security for field operational structures (i.e. Joint Field Offices, Incident Support Bases) and deployed FEMA assets.
- Develop operational objectives for coordination of Federal law enforcement resources (continue through all phases).

ESF-7

- Coordinate logistical requirements to support field operations.
- Request security assets to safeguard infrastructure and commodities.

ESF-13:

- Assess security and protection situation in impacted areas and provide input to initial COP;
- Communicate with the IMAT(s) and impacted agencies to determine law enforcement support requirements; assess any jurisdictional restrictions on deployment or deputization of Federal law enforcement officers (LEO) for augmentation of law enforcement;

- Inventory Pre-Scripted Mission Assignments (PSMA) and determine which are applicable to the tropical cyclone to begin deployment to impacted governments requesting public safety and security support;
- Request initial situational awareness on the status of transportation portals, including status of airports from the Transportation Security Administration (including capability for screening operations and airport security) and status of ports from the USCG and U.S. Customs and Border Protection (CBP);
- Coordinate anticipated protection requirements of deploying Federal assets (teams and equipment) and develop deployment plan to meet timelines and logistics;
- Coordinate incident-specific briefings from requesting jurisdictions for deployed personnel for security or fire service missions, including legal authorities, logistics, accountability, billeting, and intelligence from the scene;
- FPS provides ESF-13 lead with anticipated protective services needed for Federal facilities in impacted area that may require augmentation with FPS or contracted security personnel; and
- Develop MAs needed to meet any shortfalls in PSMA.

ESF-15

- Coordinate and provide public messaging on movement restrictions and curfews to keep the public informed and provide crowd control.

Phase 2a – Immediate Response

End State: Information has been analyzed regarding the operational environment to gauge response needs. Assets can begin moving into the area.

ESF-2

- Coordinate Federal actions to assist industry in stabilizing and re-establishing the public communications infrastructure thereby allowing alerts, which will facilitate the dissemination of instructions relative to the delivery of on-scene security and protection information to the public.

ESF-4

- Assess fire services requirements from damage assessment and information collection links and develop deployment plan to meet PR/USVI fire services assistance requests; and
- Mobilize fire services responders through ESF-4, including logistics requirements and preparation of MAs required for deployment.
- ESF-4/U.S. Department of Agriculture (USDA)/U.S. Forest Service coordinate logistics support through the National Interagency Fire Center/National Interagency Coordination Center (NICC) and the Geographic Area Coordination Center(s) to mobilize additional firefighting resources;

ESF-8

- Provide counseling and stress debriefing, ensure chain of custody of evidence, and fingerprint the remains to identify fatalities.

Appendix 3: Operational Support

Operations to provide essential public and private services and resources to the affected population through coordination of effort will occur both pre- and post-impact, and will focus on lifesaving and life-sustaining services. The Public and Private Services and Resources core capability will begin to pre-stage resources depending on the projected landfall of the tropical cyclone.

Hurricane Operational Support Objective: Re-establish the public and private sector supply chain(s) that restores the population's access to prioritized goods and services. (Note this is the same objective as the one in the All Hazards Plan.)

Concept of Operational Support

The private sector is very resilient in the Caribbean due to the environment of being so isolated. Supply chain, infrastructure constraints, and fluctuating economy present challenges that have created a well-prepared business community. Continuity of operations training has been provided on numerous occasions to both Puerto Rico and the US Virgin Islands businesses. FEMA Region II coordinates with private sectors partners through the Private Sector Liaison as well as through the same Headquarters program area. PREMA retains a private sector liaison at their EOC to share situational awareness with members of the business community.

The best practice for engaging with Public and Private Services and Resources is to maintain relationships throughout the response and recovery phases. This ensures the rapid economic restoration and return of normal operations in the area. Whenever possible, representatives should be invited to briefings, distribution lists, etc. to maintain common operating picture.

Actions by Phase and ESF

Phase 1a – Monitoring / Normal Operations

End State: Plans, checklists, interagency agreements, and contracts have been reviewed and revised as necessary; private sector partners have been integrated into teleconferences and planning meetings.

ESF-5

- Conduct recurring training and exercises with personnel;
- Conduct capability assessments with vital private sector industries/providers (e.g., Wal-Mart, K-Mart, Pueblo, PUMA, Shell);
- Determine requirements needed for restoration of vital private sector industries/providers;
- Develop communication methodologies to establish pre- and post-incident communications networks; and
- Identify anticipated PR/USVI needs that could be supported via the private sector.

ESF-15

- Develop a private sector information sharing portal on the Homeland Security Information Network (HSIN) and provide internal and external HSIN training; potentially training for WebEOC as well.

Phase 1b – Elevated Threat

End State: Select resources have been pre-positioned, and updates on commodities, facility status, personnel, and other FEMA and partner assets have been provided to deliver shared situational awareness.

ESF-15

- Activate Private Sector Liaison and hold coordination calls, if not already activated.
- Assess possibility of staging assets and personnel for restoration purposes pre-landfall.

Phase 1c – Credible Threat

End State: Assets have been positioned, as appropriate, through coordination with PR/USVI; the private sector; and other stakeholders. Situational awareness has been attained to effectively coordinate the delivery of equipment, supplies, and services. Information on private sector recovery strategies and priorities has been distributed.

ESF-1

- Provide variable messaging signs (e.g., electronic billboards, portable light boards, loudspeakers on trucks).

ESF-3

- Execute emergency contracting support for lifesaving and life-sustaining services, to include providing potable water, emergency power, and other emergency commodities and services.

ESF-4

- Alert and activate Federal firefighting resources.
- Provide direct liaison with PREMA and VITEMA EOCs, local EOCs, and fire chiefs in the impacted area and coordinate requests for firefighting assistance in structural or industrial fire detection, protection, and suppression operations.

ESF-5

- Coordinate with Federal, PR/USVI, and private sector partners to determine support needed, priorities, and their capabilities;
- Prioritize restoration of energy to life-saving facilities;
- Assess support needed for key private sector distribution centers to restore commercial food and commodities to the impacted areas; and
- Provide initial guidance for Public Assistance (PA)-related issues and identify critical water, power, and fuel needs post-incident.

ESF-6

- Analyze projected population impacts to determine hydration, feeding, and sheltering requirements in the forecasted impact areas.

- Assess the need for, and coordinate the provision of, life-sustaining ESF-6 services, resources and supplies from government agencies, nongovernment organizations (NGOs), and the private sector.
- Provide subject matter expertise to identify resource requirements to meet the life sustaining needs of disaster survivors, including those with access and functional needs, and their household pets and service animals.

ESF-7

- Develop shared situational awareness through coordination with local, commonwealth, and territorial jurisdictions, the private sector, and other stakeholders to identify additional resource shortfalls.
- Coordinate the delivery of teams, equipment, supplies, and other services to ISBs, staging areas, PODs
- Determine requirements for supply of fuel, power generation, and sanitation services to support ISBs, or staging areas, and deployed resources.
- Coordinate the purchase and direct distribution of Infant & Toddler Kits, Durable Medical Equipment, and Consumable Medical Supply Kits.
- Coordinate with OFAs for the activation of individual authorities, statutes, or the implementation of transportation weight, time, and toll waivers.
- Coordinate with the FEMA Private Sector Liaison regarding public information and outreach with regional private sector stakeholders, associations, academia, and nongovernmental organizations.
- Activate support from other interagency partners such as the Department of Defense (DOD) airlift/sealift, DLA commodities and fuel, and USACE resources, as required.
- Coordinate the provision of logistics resources of the impacted area, and Federal entities, private sector, and NGOs by providing comprehensive logistics planning, management, and sustainment resources and capabilities.

ESF-11

- Coordinate with ESF-6 and states on requests for disaster food assistance.
- Support ESF-6 to coordinate an integrated Federal response with the public and private sector to meet the mass care and emergency assistance needs.

ESF-12

- Through coordination with the Department of Energy, serve as a Federal point of contact with the energy industry for information sharing and requests for assistance from private and public-sector owners and operators.
- Provide situational awareness input on power outages and repair timelines;

Phase 2a – Immediate Response

End State: Information has been analyzed regarding the operational environment to gauge preliminary planning and response needs.

ESF-1

- Coordinate and support response and recovery activities among transportation stakeholders.

ESF-2

- Coordinate Federal actions to assist the public and private industry in restoring the critical communication infrastructure.

ESF-3

- Coordinate with RRCC/JFO for potential requests for debris removal missions.

ESF-4

- Obtain an initial fire situational and damage assessment through established intelligence procedures.
- Coordinate deployment of Federal firefighting resources.
- Provide firefighting subject-matter expertise as needed to support PR/USVI and other Federal partners.
- Provide and coordinate firefighting assistance to other Federal land management, commonwealth, territorial, and local fire organizations as requested under the terms of existing agreements.

ESF-7

- Coordinate with General Services Administration to source, identify, evaluate, and acquire a lease for Americans with Disability Act-compliant space for JFOs, and other field operations within 72 hours following notification of requirement.

ESF-8

- Notify and prepare for shipment of fatality management resources to the impacted area.

ESF-12

- Coordinate for the restoration of energy during response and recovery operations. (continue through all phases)
- Provide subject-matter expertise to the private sector as requested, to assist in restoration efforts. (continue through all phases)

Phase 2b - Deployment

End State: Governmental, nongovernmental, and private sector resources have been mobilized to support immediate lifesaving and life-sustaining needs, and stabilize the incident.

ESF-4

- Obtain, maintain, and provide firefighting incident situation and damage assessment information.
- Coordinate with state, local, and tribal responders to identify additional incident firefighting resource needs and determine issues regarding resource shortages and resource ordering

ESF-7

- Maintain shared situational awareness to determine shortfalls and additional resource requirements. Inventory and identify (to ESF-7) all large-space facilities/structures within

250 miles of the incident venue(s) that could be made available as temporary shelters, temporary morgues, or to support mass casualty medical operations.

- Collaborate with ESF-1, 3, 6, 8, 11, and 12 to ensure the continued delivery of emergency relief supplies to shelters, PODs, and dispersed/shelter- in-place populations.

ESF-8

- Coordinate with funeral homes/funeral directors for the handling of remains.
- Coordinate the use of public/private facilities for alternate healthcare treatment sites.

ESF-11

- Collaborate with ESF-8 to ensure the safety, security, and defense of Federally-regulated foods, and the health, safety, and security of food-producing animals and veterinary biologics.

Phase 2c – Sustained Response

End State: Federal assistance, including coordination with nongovernmental, private sector, and international entities, has been incorporated into response operations.

ESF-7

- Coordinate demobilization of unneeded resources, supplies, services, and personnel.

ESF-11

- Coordinate Natural and Cultural Resources and Historic Properties identification and vulnerability assessments.

Phase 3a – Short-Term Recovery

End State: Responsibility for incident management has shifted to the local and PR/USVI jurisdictions.

ESF-3

- Coordinate with Region II PA for the implementation and management of the FEMA Public Assistance Program and other recovery programs.

ESF-7

- Demobilize selected ESF-7 response efforts as the appropriate Recovery Support Functions (RSFs) continue to mobilize.
- Selected ESF-7 support actions include
 - Coordinate the rental or lease agreements for disaster recovery centers (DRCs)

Tab 1 to Appendix 3: Critical Transportation

Highways, airports, and seaports are essential to sustaining the population of the affected area. Federal resources can coordinate and facilitate the evacuation from the affected area, evaluate damages from the tropical cyclone, and provide assistance in expediting repairs. Transportation infrastructure will likely be affected by wind damage and flooding.

Hurricane Critical Transportation Objective: Determine the most appropriate transportation services that facilitate the response and support survivor needs within two operational periods. (Note this is the same objective as the one in the All Hazards Plan.)

Concept of Operations of Critical Transportation

Unlike any other core capability, all others are dependent on critical transportation in the Caribbean.

Maintain relationships with transportation providers, both private industry and Federal partners, in order that operations run efficiently during all phases. FEMA Region II will rely heavily on the US Department of Defense for transportation capability, including air and sea frames, assessments, and possible air traffic control. The most important aspect of critical transportation is the effective use of limited air and maritime transportation “bridges” in and out of the affected areas. Time-phased deployment of resources is necessary to save lives and protect property during response operations. This timing of resources is shared through the existing relationships before the need arises.

During Phase 2, certain nodes of transportation will need to be increased while others will be terminated to allow controlled, priority access to first responders and life-saving resources to enter and operate within the affected area. Assets being deployed post-landfall will utilize air transportation. Priority is given to live-saving resources. Consequently, at the same time, additional resources will utilize maritime transportation to bring about sustained operations (life-sustaining and recovery). Assessments reports from PREMA/VITEMA will be needed to establish viable transportation routes within the islands. The main concerns from reporting include roads blocked by debris and damaged bridges/roadways.

Longer term activities to restore critical transportation include, but are not limited to: assessment teams, temporary bridges, temporary ports, and landing areas. Responsibility for critical transportation infrastructure resides across PR/USVI and Federal governments. Where eligible, FEMA Public Assistance will reimburse PR/USVI for permanent work.

Actions by Phase and ESF

Phase 1a – Monitoring / Normal Operations

End State: Plans have been reviewed, updated, and exercised and coordination has occurred between local, commonwealth, territorial, and Federal governments as well as with voluntary and private-sector representatives.

- Coordinate with ESF-5 for execution of the Air Operations Mission and provide Federal Aviation Administration Liaison Officer to Air Operations Branch.
- Coordinate with PR/USVI to determine DOT waiver requirements.
- Coordinate with ESF-2 for communication capabilities for assessment crews.

ESF-3

- Identify staff available for assessment and debris removal mission.

ESF-5

- Activate the Air Operations Branch and coordinate with ESF-1.
- Coordinate with United States Coast Guard to identify critical ports and navigable waterways that will require a Federally-led inspection.
- Coordinate with ESF-8 for the activation of the National Disaster Medical System (NDMS) and verify transportation routes and staging locations.

ESF-6

- Coordinate with PR/USVI partners to make initial estimate of number of service animals and household pets that may likely need to be evacuated and coordinate with ESF-11.
- Coordinate with PR/USVI partners, the Regional Disability Integration Specialist, and the RRCC Planning Support Section to make initial estimate of functional needs populations that may require evacuation.
- Develop mass-care transportation route plan that will support an emphasis on shelter-in-place where possible.

ESF-7

- Execute on-island private sector tractor trailer contract, and identify additional transportation commodities (Federal and private) and assets available in Region that may be rapidly acquired.
- Execute fuel contract in support of response operations
- Based upon initial assessments, coordinate with Defense Coordination Element and deploy personnel and equipment to establish ISBs.
- In conjunction with the RRCC Resource Support Section and ESF-1, examine additional private sector resources for purchasing required transportation equipment.

ESF-8

- Coordinate with ESF-5 for identification of all possible medical evacuation/movement resources, and coordinate with ESF-6 and External Affairs Private Sector Liaisons for both profit and non-profit resources.
- In conjunction with the RECU, coordinate the initial staging of medical patients and medical evacuations.
- Coordinate with Joint Regional Medical Planning Officers (JRMPOs) for identification of additional Department of Defense (DOD) medical evacuation personnel and aircraft.
- Initiate the transportation of medical caches, and coordinate with ESF-1 and-5 for routes and staging locations.
- Continue coordination with JRMPOs for deployment of additional DOD medical evacuation personnel and resources.

ESF-13

- Coordinate with ESF-1 and PR/USVI partners for possible evacuation support.

ESF-15

- Develop and disseminate public information regarding evacuation routes.

Phase 2a – Immediate Response

End State: Information regarding the operational environment has been analyzed to gauge preliminary planning and response needs. Resource allocation has been performed and has started to deploy to the field for employment.

ESF-1

- In conjunction with ESF-5 and ESF-13, deploy Department of Homeland Security Federal Air Marshal Transportation Security Advanced Teams to impacted airports.
- Coordinate with ESF-9 for initial proposed routing of Search and Rescue personnel and resources.
- In conjunction with ESF-3, develop assessment plan and deploy initial staff to conduct prioritized assessment of critical routes and infrastructure that directly supports critical transportation.
- Coordinate with RRCC Individual Assistance Branch Chief in order to identify Disaster Recovery Centers (DRCs) locations and logistics requirements.
- Provide status of routes to the RRCC Planning Support Section.

ESF-3

- Coordinate with ESF-1 and RRCC Situational Awareness Section to identify priority routes for debris clearance.
- Prepare to perform debris clearance if requested

ESF-5

- The Air Operations Branch will coordinate with ESF-1 and ESF-9 for movement of S&R resources and capabilities.

ESF-13

- Coordinate with PR/USVI partners for provision of additional personnel for security along incident response routes, as well as securing perimeter of incidents.

ESF-15

- Assist PR/USVI and local partners with dissemination of public information regarding evacuation routes.

Phase 2b - Deployment

End State: Priorities for the coordination and restoration of critical infrastructure have been established, and Federal resources in support of critical transportation efforts have been prioritized and employed in the affected area.

ESF-1

- Identify priority transportation routes and facilities in order for ESF-3 and Defense Coordination Element to develop debris removal plan and begin clearing debris.
- Based upon impact assessment, coordinate with ESF-3, the Regional Defense Coordination Element, and PR/USVI partners to prioritize the restoration of critical transportation routes (bridges, ramps, roads, etc.).
- Based upon impact assessment, coordinate with PR/USVI partners and Federal Aviation Authority to prioritize the restoration of airport facilities and capabilities.

ESF-3

- Coordinate with ESF-1 for clearance of debris from prioritized/critical roadways (goal is within 72 hours following a declaration).
- Conduct direct critical transportation infrastructure temporary repair or provide technical/contracting assistance for rapid restoration.

ESF-4

- In coordination with ESF-1 and ESF-3, provide debris clearance assistance, personnel, and capabilities.

ESF-5

- Coordinate with ESF-1 and 3 for debris clearance.
- Coordinate with ESF-1 for continued Air Operations Branch operations.

Phase 2c – Sustained Response

End State: Infrastructure assessments have been performed, and stabilization of critical transportation infrastructure has been completed. Survivor evacuation is complete, and vital resources and services have been delivered to disaster survivors and responders within the impacted area. Supplemental/Alternate service restoration possibilities are being discussed.

ESF-1

- Where mass evacuations occurred, coordinate with state partners and begin assessing ability for individuals to return where the critical infrastructure is stabilized and is able to support.

ESF-3

- Provide technical assistance, clear debris, and restore navigable water ways.

ESF-5

- Coordinate with Department of Homeland Security for cataloging of potential national surge engineer personnel (academic, professional organizations, retired Federal or military service, etc.).

ESF-6

- Coordinate with ESF- 1 for routing of life-saving/sustaining resources being pushed into areas where survivors are sheltering in place.

- Coordinate with nongovernmental organizations for the provision and routing of additional vehicles for the distribution of resources to individuals sheltering in place.

ESF-7

- Execute private sector transportation requirements and shipment of life-saving/sustaining resources to established ISBs.

ESF-12

- Coordinate with PR/USVI partners and ESF-7 to ensure fuel sources remain available for first responders and sustained incident response activities.

ESF-15

- Develop and disseminate public information regarding route and location of distribution of life-saving/sustaining resources.

Phase 3a – Short-Term Recovery

End State: Transportation infrastructure has been restored on an emergency/temporary basis to allow the free ingress and egress of personnel, equipment, and services into the affected area; permanent repair ongoing.

ESF-1

- Continue to identify secondary and tertiary routes for clearance and repair.
- As primary airport facilities become functional, identify additional facilities for restoration.
- Scale back air space management/restrictions as primary airport becomes functional and initial economic recovery can begin.
- Work with Regional Federal Disaster Recovery Coordinator to begin developing long-term recovery priorities.

ESF-3

- Continue to clear debris from secondary and tertiary routes.

ESF-8

- Facilitate the return of medical evacuees where infrastructure would support a return of patients.

Tab 2 to Appendix 3: Mass Evacuation

This section is included as part of the standard plan format but may also be used in the instance that a mass evacuation is called for, either pre-landfall or post-landfall. It has no specifics pertaining to the Caribbean.

The conduct of evacuation operations is generally a local, state, and tribal, and commonwealth responsibility. However, there are circumstances that exceed the capabilities of these jurisdictions to support mass evacuations. When practical and possible, precautionary mass evacuation support is provided before an event to move citizens away from a potential incident when warning is available and after an event when conditions are such that it is unsafe for citizens to remain in the area. In instances where Federal support is required, FEMA coordinates Federal support with the local, state, tribal, and commonwealth governments. This particular service is extremely rare for the Caribbean Area as location/distance away from the hazard can limit the effective execution of a mass evacuation.

Mass evacuation planning is required to provide an overview of functions, agency roles and responsibilities as well as overall guidelines for the integration of local, state, tribal, and Federal support in the evacuation of large numbers of people in incidents requiring a coordinated Federal response.

The ordering, sourcing, transportation, issuing, and movement of Federal resources generally follows the following procedural steps: mass evacuation resources (equipment and services) are identified; and secondly, contra flow planning is performed, when feasible.

The Federal Government coordinates with the impacted state(s) to determine the support local, state, and tribal governments require, including the possible need for a Federal evacuation of citizens. Local, state, and tribal governments provide their evacuation plans and information and any actions already taken to facilitate evacuation. All evacuation movements by air, including both civilian and military flights, must be coordinated with the Federal Aviation Administration (FAA). Coordination should include consideration for access and functional needs populations identified by local, state, and tribal governments as well as for service animals and household pets.

Chemical, biological, radiological, or nuclear contamination may impact potential evacuation routes. The Interagency Modeling and Atmospheric Assessment Center provides the official Federal prediction for airborne hazardous materials releases. This would be coordinated through the National Response Coordination Center (NRCC).

The Federal Government maintains that there are specific roles of state governments in hurricane evacuations, and these laws, policies, or protocols vary from state to state. (However, air evacuations require coordination with FAA regardless of the involvement of other Federal departments and agencies.) In general, state laws provide the Governor authority to declare an

emergency and assume extra powers and responsibilities to protect the health and safety of the citizens of the state. Specific powers relating to an evacuation include:

- Create, amend, or rescind rules or directives to provide the necessities of life or supplies and equipment.
- Direct state and local law enforcement officers, to include state National Guard units
- Prescribe evacuation routes, transportation modes, and destinations.
- Control ingress and egress to the disaster area and the occupancy of premises in the disaster area.
- Order, direct, compel, or recommend an evacuation.

Municipalities, counties, and parishes are given responsibilities to protect the health and safety of their citizens including the authority to order an evacuation of their jurisdiction and to provide first responders.

Appendix 4: Operational Communications

Coordination of response operations requires communications support to first responders, public notification systems, and sustainment of basic, positive private-sector communications until existing communications systems are restored. Responders accessing areas with major wind damage, water damage, and/or flooding may need to adapt technological solutions in a physically challenging environment in order to complete communications restoration.

Hurricane Operational Communications Objective: Prior to landfall, complete hardening of telecommunications resources against deformation and power outages. (Note this objective is revised from the All-Hazards Plan and is specific only to hurricanes and other tropical cyclones.)

Concept of Operations for Communications

The telecommunications industry in the Caribbean is run by a handful of private sector companies. These companies are, for the most part, responsible for maintaining and protecting their own infrastructure from catastrophic storms, and are quite efficient when it comes to restoration. There are minimal expectations that Federal assistance would be required to restore the infrastructure during the response and recovery of a storm. However, FEMA will maintain situational awareness of telecommunications restoration and coordinate these efforts in partnership with the telecommunications industry according to the following priorities: 1. Public safety; 2. Commonwealth/territorial requirements; and 3. Individual commercial service.

The major players for telecommunications in Puerto Rico are AT&T and Puerto Rico Telephone (PRT). PRT also owns Claro, which is a major commercial provider of wireless service. Other smaller companies include T-Mobile and Sprint. Verizon Wireless does not maintain a presence in the Caribbean, but has partnerships with other providers so their subscribers can communicate in Puerto Rico. In the US Virgin Islands, the main provider of landline and wireless services is Innovative Wireless and Mountain Wireless. Bronx Communications maintains the broadband radio networks. The main satellite providers are Stratos and Knight Sky.

However, emergency response workers still rely mainly on the existing commercial network. Should the infrastructure go down post-landfall, responders still have the capacity to communicate with stakeholders in the Federal, commonwealth, and territorial community. The Caribbean Area Division (CAD) in San Juan, Puerto Rico and the FEMA Bunker on St. Thomas have access to satellite communications that include voice and data. This redundancy also exists throughout the Federal community in the area. Other homeland security partners stand ready to provide communications assistance to FEMA to relay requests for Federal assistance to either the RRCC or NRCC.

Actions by Phase and ESF

Phase 1a – Monitoring / Normal Operations

End State: Planning, training, and exercises have been conducted, and systems build-out has enhanced the abilities of responders to communicate. Coordination with public and private partners has resulted in increased awareness of technological and procedural gaps and the solutions required to achieve and maintain communications spectrum management, operability, and interoperability.

ESF-2

- Multi-agency ESF that ensures the national disaster emergency communications policy for tropical cyclone response is disseminated to national and regional staff.
- Develop, maintain, train, and exercise national disaster emergency communications standard operating procedures (SOP) for tropical cyclone response.
- Participate in tropical cyclone response communications training and exercises with DOD and other Federal departments and agencies.
- Identify locations for the pre-staging of mobile emergency response support (MERS) detachments and assets in each Region for tropical cyclone response.

Phase 1b – Elevated Threat

End State: Based on preliminary information, operational communications plans are refined to address the operational communications needs of whole community partners.

ESF-2

- Activate department and agency SOPs for communications resources and support for a tropical cyclone response.
- Review pre-identified locations for the pre-staging of MERS detachments and assets and select appropriate locations based on area of potential impact.
- Provide national-level support for regional disaster emergency communications preparedness activities through Regional Emergency Communications Coordinators (RECCs) and MERS detachments. Maintain positive Federal-to-Federal and Federal-to-Territory communications prior to, during, and following the disaster.

Phase 1c – Credible Threat

End State: Existing Federal communications response equipment is catalogued and readied for deployment.

ESF-2

- Select communications staging locations from those pre-identified for each FEMA region while considering tropical cyclone path and available resources. Use ESF # 2 PSMA's to various activations prescribed by phase and level of the disaster.

Phase 2a – Immediate Response

End State: Preliminary damage assessments have been conducted, in coordination with public and private sector partners, to identify the status of communications infrastructure. Federal personnel have been alerted.

ESF-2

- Gather situational awareness of regional communications infrastructure.
- Participate in Federal, Commonwealth, Territorial, and NGO partner conference calls.
- Coordinate MERS response with MERS liaison.
- Provide situational awareness to planning.
- Request FCC roll call report when area is safe.
- Host post-event conference calls with Commonwealth/Territorial POCs.
- Respond to communications requirement requests.
- Activate FCC Disaster Information Reporting Systems (DIRS).

Phase 2b – Deployment

End State: Resources and capabilities have been coordinated amongst public - and private-sector partners and deployed to the affected area to meet shortfalls. Preliminary Federal response equipment has been adjudicated and integrated with jurisdictional communications systems to restore operability.

ESF-2

- Gather situational awareness of regional communications infrastructure.
- Coordinate MERS response with MERS Coordinator.
- Provide situational awareness to planning.
- Assess cyclone response with key partners.
- Participate in Federal partner conference calls.
- Host post-event conference calls with Commonwealth/Territorial POCs.
- Respond to communications requirement requests.

Phase 2c – Sustained Response

End State: Sufficient communications have been reestablished within the affected area.

ESF-2

- Occupy Disaster Emergency Communications (DEC) branch at Joint Field Office (JFO) as needed.
- Gather situational awareness of regional communications infrastructure.
- Participate in Federal, Commonwealth, Territorial, and NGO partner conference calls.
- Coordinate MERS response with MERS conference.
- Provide situational awareness to planning, operations, and logistics.
- Host post-event conference calls with Commonwealth/Territorial POCs.
- Respond to communications requirement requests.

Phase 3a – Recovery

End State: As communications systems are restored, Federal communications support resources have been reconstituted or demobilized, as appropriate.

No additional tasks, beyond those identified within the All Hazards Plan have been identified, however, any additional communications support prescribed by the scope and timeline of the recovery process, or otherwise deemed appropriate.

Table A5-2. FEMA Region II Caribbean Hurricane Executive Checklist

Phase 1B – Elevated Threat Initial Assessment to H -72 hours (before onset of tropical storm (TS) winds)			
Objectives: <i>Increase and Reconcile Situational Awareness (SA), Prepare Plans and Reports, Ready Regional Response Coordinating Center (RRCC), Regional Response Coordinating Staff (RRCS) & Incident Management Assistance Team (IMAT) for Activation.</i> FEMA Expected Actions/Decisions: <i>When and where staff, resources, and key facilities will be located.</i>			
	Action Item	Task to	Note
Initial Assessment to H -120 hours (before onset of TS winds)			
1B-1	Monitor incoming and outgoing information from FEMA HQ, National Response Coordination Center (NRCC), Region II (R2) Division Directors, adjacent FEMA regional leadership, and Commonwealth/Territorial partners of R2's hurricane readiness and response posture.	Response Division Director	<p>Although the National Hurricane Center (NHC) products available at this point will not provide track forecast and cone or strike probability models, standard weather reports are sufficient to begin having discussions. Also, use the Tropical Weather Outlook Product to monitor possible systems that could become tropical within forty-eight hours.</p> <p>Be prepared for HQ and NRCC to begin asking R2 readiness questions. Although it may seem too early, begin discussing the timing for pre-landfall declaration with Puerto Rico and the US Virgin Islands. Determine if Stafford Act thresholds are met and discuss any concerns arising. Pay attention to the Stafford Act criteria required for PR/USVI receiving declarations: (1) A federal agency indicates a major disaster is imminent (2) Governor executes the Commonwealth/Territorial Emergency Plan and (3) indicates Direct Federal Assistance (DFA) is needed above and beyond PR/USVI or 3 or more counties (or geographic area equivalent to more than 100,000 individuals) receives evacuations orders</p>
1B-2	As a proactive measure, consider where key facilities (Initial Operating Facility (IOF), Incident Support Base (ISB), Federal Staging Area(s), Regional Staging Area(s), Joint Field Office (JFO) will be located and with which FEMA teams.	Response Director, FCO's, IMAT Team Lead	Must choose between Aguadilla (West Coast) and Cieba (East Coast). The speed and the direction of the storm system may be used as a factor in determining the most viable geographic location. Arrival of staff at the IOF and ISB needs to occur 72-48 hours before the onset of TS winds. Take into account billeting and travel time.
1B-3	Instruct the Region II Watch to alert appropriate Emergency Support Functions (ESFs), Federal Coordinating Officers (FCO's), IMATs, Defense Coordinating Element (DCE), Mobile Emergency Response Support (MERS), and Liaison Officers (LNOs) and American Red Cross (ARC) for possible deployment.	Response Director	Establish a deployment timeline for resources and teams. Operations orders issued for alert only; no movement at this time.
1B-4	Alert Hurricane Liaison Team (HLT) that their services may be needed.	Response Director	Alert for potential deployment of personnel to National Hurricane Center. Travel Authorization (TA) will come from HLT.
1B-5	Brief employees on emergency responsibilities for pre and post-storm operations.	All Division Directors	Task Watch to send out an all-hands email to R2 staff reminding them to review their RRCS/IMAT responsibilities.

1B-6	Ensure the RRCC is prepared for the arrival of staff at least by the 72 hrs. mark.	Mission Support Director and RRCC Branch Chief	Task Facility Support staff at the RRCC to make certain all information technology systems and redundancy systems are operational 12 hrs before the arrival of RRCS. Arrival of RRCS needs to occur at least 72 hours before the onset of TS winds. Take into account travel time for RRCS members. Task Facilities Manager or Regional Security Manager to notify NWS Earle so that they are aware of the influx in RRCS arriving at the base (possibly during off-hours).
1B-7	Refer to Regional FURRS staffing report to determine RRCS and IMAT teams to deploy and where to deploy to (Earle, Regional Office, PR/USVI offices).	Response Director	Review current staffing report to make informed decisions on what teams to deploy and for how long they will be deployed. Have the Activation Order drafted - This is for stand-by only. Consider informing the other RRCS and IMAT members as to when and where they may deploy to. The Watch may need one of the RRCS teams to enhance their operations while an RRCS team travels to Earle.
H-120 to H-72 hours (before onset of TS winds)			
1B-8	PR/USVI will implement Partial Activation operating structure by T-96 to 72 hours.	Situation Awareness	Be prepared to deploy IMAT and Liaisons to PR/USVI Emergency Operations Centers (EOCs).
1B-9	PR/USVI will be conducting their initial Principals meeting within this timeframe to discuss disaster declaration.	Legal	There are certain Stafford Act provisions that need to be met before pre declarations can be made. IMAT and Liaisons at PR/USVI EOC can assist with situation awareness (SA).
1B-10	Determine the nature of the hurricane threat to the Caribbean area so that key staff and resources can begin movement if needed.	Situation Awareness	Communicate with HLT by forecast period for their risk, vulnerability and threat analysis following issuance of the hazard forecast. Task Watch to run HURREVAC (hurricane evacuation decision-making software) for additional data. Pay attention to the storm track, forward speed, track forecast cone. The analysis the HLT and information from HURREVAC will help inform the decision to issue deployment orders and move resources to key facilities. If necessary, activate RRCC to Level III and place Watch on an enhanced level. If necessary, activate appropriate ESFs and DCO (Mission Assignment (MA) to coincide).
1B-11	Begin and continue to gain strategic level situation awareness about the weather system, FEMA and PR/USVI operations.	Situation Awareness	Ensure that an Information Collection Plan (ICP) is developed, evaluate the identified Essential Elements of Information (EEIs) against the actual incident, validate the Critical Information Requirements (CIRs) with RRCC senior leadership, and modify as needed. Connect ESF's to EEI's as they begin to arrive at the RRCC.
1B-12	Ensure products such as the initial Situation Report, Regional Support Plan, and Advanced Operations Plan (AOP) are developed, and that the pre-scripted mission assignments (MAs) to activate ESF's and other federal agencies to the RRCC are readied.	Response or RRCS Chief	Record actions and use formal documents to track actions such as activation orders and instructions to staff are used. MA's associated with moving the required personnel and equipment should be reviewed and issued as necessary.
1B-13	Create event in NEMIS, WebEOC; ADD location	Regional Watch Center	Have Watch establish an event in NEMIS and WebEOC, Mission Support to activate surge account and generate a TA, and create a disaster location in Automated Deployment Database (ADD) for deployments.
1B-14	Confirm that the appropriate MA's, commodities, and contracts (transport) are readied to support facilities, equipment, staff, and supplies going forward.	Resource Support Section Chief/Resource and Capability Branch Director	Verify capability to process mission assignments, contracts, LCSMS orders (enough staff, etc.). Begin, and continue to pay attention to, the actual and predicted unmet needs of PR/USVI. (Shelter commodities and staffing, fuel, generators, etc.). Review the list of potential actions in this plan and determine the appropriate mission assignments, commodities, and mode of transportation. This includes existing shipping contracts and items at the Distribution Center (DC) Caribbean (or other locations as available) that can be delivered to USVI in advance of the storm.

**Phase 1C – Credible Threat
(H-72 hours until onset of TS winds)**

Objectives: Prepare staff, equipment, and supplies for deployment and participate in SA calls paying particular attention to pre-storm actions of PR/USVI and locals. Begin to synchronize R2 actions with NHC forecast periods. Anticipate likely damage scenario/unmet needs for post storm operations and ready Federal teams and assets

FEMA Expected Actions/Decisions: Status of federal pre-disaster emergency declaration for commonwealth and territory – if and when.

	Action Item	Task to	Note
H-72 to H-48 hours before onset of TS winds			
1C-1	Form Unified Coordination Group with PR/USVI	IMAT	IMAT Puerto Rico and IMAT US Virgin Islands are to initiate joint meetings and develop joint objectives in preparation for landfall. Begin adaptive planning development.
1C-2	Receive briefing on Public Service Announcements local and PR/USVI will be issuing.	ESF-15	Work with supported jurisdictions and ESF's to establish JIC if needed. Coordinate unified messaging on preparedness and evacuations needs to residents and tourists (multi-language and access and functional needs).
1C-3	Request inventory brief on (a) commodities such as water, food, fuel, generators that will be needed pre- and post-storm; (b) the locations of the staging areas; and (c) the identification of shelters, their type (congregate care/human only, pet only, or co-located/human and pet) and status (open, standby etc.).	Resource Support	Understand what is in-place and due-in of water, food, fuel, generators, transport vehicles, etc. and that regulatory waivers, exemptions, and permits may need to be addressed. Sources of information are ESF: 3, 7, 12, and DCE.
1C-4	Assure that MAs are issued under the under correct funding stream	Order-Processing Group Supervisor	Verify MA output meets the need of the event. Research to determine any shortfalls or limiting factors from within the RRCC (staffing, funding, network issues, etc.) Solve what issues can be addressed internally; elevate issues to another Region/HQ if workload can't be met. Ensure enough staff to sustain operations for at least 1 week, day and night shifts. Stage assets on FOS (Federal Operations Support) missions; upon PR/USVI requests, issue DFA (Direct Federal Assistance) missions.
1C-5	Gather information from HLT reports to provide senior leadership with information to base staffing levels for IMAT and RRCC.	Situational Awareness Section	Communicate with HLT on risks, vulnerabilities and threats. Task Watch to run HURREVAC for additional data. Pay attention to the storm track, forward movement, wind timing via HURREVAC to cease operations and rainfall forecasts.
1C-6	Evaluate the possibility of National Level Contracts	Resource Support Section Chief	Assist PR/USVI with requesting the execution of national-level contracts. These include: <ul style="list-style-type: none"> – Ambulance Contract – Evacuation Technical Assistance – Individual Assistance – Technical Assistance Contracts (IA TAC) – Personal Assistance Services (PAS) (Mass Care) – Transitional Sheltering Assistance (TSA) (hotels, motels, etc.) If the state requests, begin coordination calls w/HQ and/or NRCC.
1C-7	Consider extended operations based on hurricane forecast.	Chief or Deputy of RRCS	Request HQ to support with staffing.
1C-8	Support possible incoming HQ pushed resources	Resource Support Section Chief	Be prepared to have FEMA HQ begin to push resources such as Disaster Survivor Assistance Teams, National IMAT, etc. start to arrive in the -48 to -24 hour timeframe.

1C-9	USACE estimates on impacts	Situational Awareness/ Recovery	Work with the US Army Corps of Engineers to begin Disaster Impact Modeling (debris/water/blue roofs/critical facilities).
H-48 to H-24 hours before onset of TS winds			
1C-10	Between 48 to 24 hours, if not already requested, PR/USVI will submit request for disaster declarations.	Legal	Work with R2 legal to understand any limitations or exceptions to the policy at that moment. Task LNOs assigned to EOC's to monitor the declaration request so it can be forwarded to Legal and the Regional Administrator (RA). Pay attention to the necessary criteria needed for declaration.
1C-11	At the -48 hour time-mark, PR/USVI will open their sheltering system	Mass Care	ESF-6 will monitor and provide technical assistance.
1C-12	COOP or devolution needs to be considered.	Regional Administrator	Consult with HQ if the storm track and intensity are forecasted to be a widespread "worst-case-scenario" for the Caribbean Area Division. Be aware of other Federal agencies doing continuity of operations (COOP) or devolution.
1C-13	Monitor the inventory of FEMA logistics and resources.	Operations Support Group Supervisor	Track inventory levels of resources nationally and regionally. Ask about the predicted burn rates of commodities such as water, food, fuel at staging areas as well as at Points of Distribution. PR/USVI have pre-designated staging locations to accept logistics and commodities – have GIS map if possible.
1C-14	Assess the potential amount of debris and the storage and removal of debris. This includes pre-positioning teams and equipment and identifying temp debris sites.	Situation Awareness Section, Infrastructure Assets Group	Run debris models based on storm predictions and consider the USACE and DoD resources to support PR/USVI unmet needs.
1C-15	Monitor the status of critical infrastructure and key resources – to include private sector operations via PR/USVI and HQ conference calls.	Situation Awareness	Communicate with the USCG (sea) and PR/USVI Port Authority (air) on anticipated closures and the SA they need to inform their decision making. Private sector utility companies can provide status on their infrastructure. Private sector suppliers such as K-Mart, Wal-Mart, and SuperMax can provide their information on their delivery/supply schedule based on hurricane landfall.
H-24 hours before onset of TS winds			
1C-16	Fully Activate PR/USVI EOC	IMAT	IMAT and LNOs are to fully integrate with PR/USVI ESF staff.
1C-17	At -12 hours, PR/USVI will issue a Shelter in Place announcement	ESF 15	Ensure ESF 15 has aligned proper messaging at the JIC.
1C-18	Obtain a copy of the joint Incident Action Plan IAP with the PR/USVI(s).	Planning Support	The goal is to have this within 24 hours following the declaration, with the FCO and IMAT facilitating the development of the IAP.
1C-19	Execute call down list	Division Directors	At -12 hours prior to TSF winds making landfall, have Staff Support conduct chain of command roll call.
1C-20	Model projected impacts.	Situation Awareness	Consider having a HAZUS or Army Corps debris models run to help determine which areas will have greatest impacts. Pay attention to potential life sustainment and life safety issues (water rescues, isolation rescues, food and water drops, etc.)
1C-21	Prepare for widespread flooding and power outages secondary to storm surge and down trees if maximum sustained and wind gusts are forecasted to exceed 50 mph and high tide is occurring simultaneously to hurricane arrival.	Resource Support Section Chief	Be prepared (deploy/stage assets as appropriate at ISB or other locations outside affected area) for PR/USVI to request: <ul style="list-style-type: none"> • Saw crews • Un-watering pumps (some underground infrastructure exists) • Debris removal equipment • Generators & fuel • Light towers • Search & Rescue teams • Communications equipment Use models, historical reference and subject matter experts to decide on what items are needed.
1C-22	Align operational objectives	Planning Support	Instruct the IMAT Team lead and Chief/Deputy of the RRCS to align operation objectives for the next 72 hours.
1C-23	Identify potential JFO location(s).	Resource Support	Review list of JFO's used during recent disasters and Government Services Administration) GSA should be able to generate a list of potential sites. Include the PR/USVI and FCO's in discussion.

Phase 2A/B – Deployment (Onset of TS winds to +72 hours after TS winds subside)			
Objectives: <i>Ensure teams and assets are safely in place prior to arrival of TSF winds.</i>			
Expected Actions/Decisions from FEMA: <i>Deployment of teams and assets for PDA's and support for unmet needs.</i>			
	Action Item	Task to	Note
0 hours = Onset of TS winds			
2A/B-1	Obtain weather briefing and 72 hour forecast to determine when FEMA can begin conducting outside operations.	Situational Awareness	Have HLT brief on <u>current weather situation</u> such as heavy rains, tornados, high winds in order to determine when <u>exactly</u> it is safe to conduct post-response activities such as aerial surveillance, search and rescue, preliminary damage assessment. Include IMAT Team Lead and Safety Officer in discussions. Ensure staff that will need to work outside such as the Disaster Survivor Assistance Teams, Preliminary Damage Assessment teams, etc. have read safety plan.
0 to +72 hours after TS winds subside			
2A/B-2	Identify re-entry status/process	Situational Awareness	Obtain status from Puerto Rico and US Virgin Islands on timing of re-entry or residents into evacuated communities.
2A/B-3	Coordinate with States on disaster declarations.	Legal Advisor	Legal will review Governor's' requests for Federal Assistance (Disaster Declarations) after being reviewed by Program Area and Regional Administrator
2A/B-4	Assess level of RRCC and adjust as necessary.	RRCC Chief	If extended operations, adjust staffing levels and consider replacing R2 staff with other FEMA staff.
2A/B-5	Assess overall staffing levels and future operational period staffing needs.	Center and Staff Support Section Chief	Be prepared for HQ to send Surge Capacity Force Teams or be prepared to justify why Surge Capacity Force Teams are required.
2A/B-6	Coordinate and prioritize the deployment of Federal resources	Resource Support	Allocate resources and personnel based on shared situational awareness and operational analysis.
2A/B-7	Optimize staffing for FEMA field teams until Surge Capacity Force Teams arrive.	IMAT	Task IMAT to coordinate with Puerto Rico and US Virgin Islands as to where Disaster Survivor Assistance Teams, Individual Assistance (IA) and Public Assistance (PA), and Preliminary Damage Assessment (PDA) teams should deploy to first.
2A/B-8	Obtain an estimate of actual debris including sand wash up in the coastal communities.	Infrastructure Assets Group	Task IMAT to coordinate with United States Army Corps of Engineers (USACE) in debris assessments.
2A/B-9	Request a briefing on the status of available and needed commodities such as water, fuel, generators, shelter capacity and capability, etc.	Infrastructure Assets Group, ESF 6	Deploy Prime Power Team for generator unmet needs. Understand the commonwealth/territory's intent on power restoration, water services, and privately-owned fuel facilities (to restore the water and fuel supply to survivors).
2A/B-10	Check with the Captain of the Port and Port Authorities for the status of the Air and Sea ports.	Infrastructure Assets Group	Closure of the sea ports and harbor will have secondary effects to incoming fuel deliveries. Airport closures will limit quick access to resources (especially personnel). Identify which federal resources can assist in opening ports.
2A/B-11	Check on status of essential transportation infrastructure.	Infrastructure Assets Group	Attain assessment of main arteries of transportation across the islands. Also, the access roads to/from the airports and sea ports as well as any bridges that may have been compromised during the hurricane.
2A/B-12	Obtain briefing on the need for temporary housing.	ESF 6	Coordinate with Puerto Rico and the US Virgin Islands on the areas affected - consider sites for temporary housing solutions.
2A/B-13	Develop an RRCC to JFO transition plan.	Planning Support, IMAT	The timing of the transition can be based on when the JFO will be operational and the FCO is prepared to take over operations. RA will issue letter authorizing FCO a designation and delegation of authorities' letter/memo.
2A/B-14	Develop an RRCC demob plan.	Planning Support	Once transition plan is implemented, work with RRCC Chief on timely release of RRCS. Make certain that Puerto Rico and US Virgin Islands are aware of demob timing.

Appendix 6: List of Acronyms

AHP	All Hazards Plan
AOR	Area of Responsibility
CBP	Customs & Border Patrol
CCCU	Congregate Care Coordination Unit
CFLA	Coastal Flood Loss Atlas
CFR	Code of Federal Regulations
CIKR	Critical Infrastructure and Key Resources
CIR	Critical Information Requirements
CODEL	Congressional Delegation
CONUS	Continental United States
COP	Common Operating Picture
DCE	Defense Coordinating Element
DCO	Defense Coordinating Officer
DFA	Direct Federal Assistance
DHS	Department of Homeland Security
DMORT	Disaster Mortuary Response Team
DOD	Department of Defense
DPMU	Disaster Portable Morgue Unit
EA	External Affairs
EAO	External Affairs Officer
EEI	Essential Element of Information
EMAC	Emergency Management Assistance Compact
ENS	Emergency Notification System
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
ESF	Emergency Support Function
FCO	Federal Coordinating Officer
FEMA	Federal Emergency Management Agency
FIOP	Federal Interagency Operational Plan
FOC	FEMA Operations Center
HAZMAT	Hazardous Materials
HES	Hurricane Evacuation Study
HHS	Health and Human Services
HLT	Hurricane Liaison Team
HQ	Headquarters
HSPD	Homeland Security Presidential Directive
IA	Individual Assistance
IAP	Incident Action Plan
IGA	Inter Governmental Affairs
IMAT	Incident Management Assistance Team
IOF	Interim Operating Facility
ISB	Incident Support Base
JFO	Joint Field Office
JIC	Joint Information Center

LEO	Law Enforcement Officer
MA	Mission Assignment
ME	Medical Examiner
MERS	Mobile Emergency Response System
MOC	Member(s) of Congress
NCH	Natural & Cultural Resources & Historical Properties
NDMS	National Disaster Medical System
NGO	Non-Governmental Organization
NHC	National Hurricane Center
NHP	National Hurricane Program
NIMS	National Incident Management System
NOAA	National Oceanic & Atmospheric Administration
NRCC	National Response Coordination Center
NRF	National Response Framework
NSS	National Shelter System
NWS	National Weather Service
OCONUS	Off-Continental United States
OFA	Other Federal Agencies
PA	Public Assistance
PPE	Personal Protective Equipment
POD	Point of Distribution
PREMA	Puerto Rico Emergency Management Agency
PSMA	Pre Scripted Mission Assignment
RDIS	Regional Disability Integration Specialist
REC	Regional Emergency Coordinator
RELT	Regional Emergency Liaison Team
RISC	Regional Interagency Steering Committee
RRCC	Regional Response Coordination Center
RSC	Responder Support Camps
RSF	Recovery Support Function
RSP	Regional Support Plan
SAA	Situation Awareness Alert
SAR	Search and Rescue
SAS	Situational Awareness Section
SEOC	State Emergency Operations Center
SLOSH	Sea, Lake, and Overland Surge from Hurricanes
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USDA	United States Department of Agriculture
VITEMA	Virgin Islands Territorial Emergency Management Agency



FEMA



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**VIRGIN ISLANDS TERRITORIAL EMERGENCY
MANAGEMENT AGENCY (VITEMA)
CONTINUITY OF OPERATIONS PLAN**



GOVERNMENT OF THE UNITED STATES VIRGIN ISLANDS

Elton Lewis, CEM

Director

VITEMA

Date: _____

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FOREWORD

The Virgin Islands Territorial Emergency Management Agency (VITEMA) supports the Governor, of the Virgin Islands, by using an all-inclusive, risk-based emergency management program to build, sustain, and improve the capability to prepare for, protect against, respond to, recover from, and mitigate all hazards. To accomplish this mission, VITEMA must ensure it performs its operations efficiently with minimal disruption of essential operations, especially during an emergency.

The VITEMA continuity of operations program is a flexible plan, ensuring the Agency's continuity of operations are not tied to a single model or location. The VITEMA COOP Plan postures the Agency to perform its mission essential functions in any emergency. The VITEMA COOP Plan, when activated, is prepared to achieve operational capability within 12 hours and to sustain operations for up to 30 days or until a return to normal operations. The plan encompasses preparedness, activation, operations, and the return to normal operations.

The Agency is committed to strengthening the Territory's resilience to disasters by building unity of effort among the entire emergency management team. It is our goal to meet the needs of disaster survivors and effectively support recovery of disaster affected communities.

The Agency, in collaboration with the Federal Emergency Management Agency (FEMA) will continue to train and exercise its workforce on competencies allowing the effective support of field operations, while at the same time ensuring sufficient staffing of the daily critical functions to keep our operations running smoothly. We are an organization in which every employee, full-time or temporary, has an integral role in reducing the suffering of survivors and supporting communities toward recovery.

While we cannot accurately predict the severity and consequences of an emergency, effective continuity planning can minimize its impact on VITEMA's missions, personnel, and facilities. A robust continuity plan helps VITEMA accomplish its mission with minimal disruption to essential operations during any emergency. All Agency employees should familiarize themselves with this plan, as well as their organization's continuity of operations policies, roles, and responsibilities.

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CHAPTER 1. GENERAL INFORMATION

1.1 INTRODUCTION

The Virgin Islands Territorial Emergency Management Agency (VITEMA) Continuity of Operations (COOP) Plan provides planning and program direction and guidance for implementing VITEMA continuity plans and programs. The purpose of the COOP Plan is to ensure VITEMA is capable of conducting its mission and essential functions under all threats and conditions, and to provide guidance and direction for the component organizations use when developing and maintaining internal COOP Implementation Plans.

It is the policy of VITEMA to respond quickly and recover expeditiously from any disruption, emergency, or threats (human, natural, and technological), to the Virgin Islands government agency's infrastructure. In the event that the building is not inhabitable, VITEMA will activate this COOP Plan in order to continue fulfilling its essential activities.

Background:

The principal mission of VITEMA, as a first response coordinator, is to save lives and property of the Territory's population, by preparing territorial organizations to respond to, recover from and mitigate against All-Hazards, through planning, coordinating, training and exercise activities and is the sole Virgin Islands government agency designated to supervise, administer and coordinate All-Hazards response and recovery operations. Authority is derived from Virgin Islands Code, Title 23, the VITEMA Act (5233) of 1986 and the Emergency Management Act of 2009 (Act 7074).

To meet these threats, Governor John P. de Jongh, Jr., in 2009, reorganized emergency management in the Virgin Islands by consolidating the VITEMA, the Virgin Islands Office of Homeland Security, the 9-1-1 communication centers, and the Public Assistance Grant Program. Moving VITEMA's personnel, program, and functions from under the auspices of the Office of the Adjutant General, the Office of Management and Budget and the VI Police Department will bring greater focus and enhance the importance of emergency management throughout the Territory. This approach has been further strengthened by elevating the Virgin Islands Territorial Emergency Management.

This plan is developed in accordance with guidance in the National Continuity Policy Implementation Plan; Continuity Guidance Circular 1 (CGC 1), Continuity Guidance for Non-Federal Governments (States, Territories, Tribes, and Local Government Jurisdictions), dated July 2013; Continuity Guidance Circular 2 (CGC 2), Continuity Guidance for Non-Federal Governments, dated September 2013; and other related directives and guidance.

The VITEMA COOP Plan provides guidance to the employees of the U. S. Virgin Islands St Croix (STX), St John (STJ), and St Thomas (STT) for the execution of their responsibilities and continuation of the Virgin Island's essential functions under adverse conditions.

The VITEMA uses a comprehensive, risk-based, emergency management program of preparedness, mitigation, response, and recovery to reduce loss of life and property and to protect the Territory's institutions from all types of hazards.

This COOP Plan provides guidance for the continuation of essential functions if circumstances require an emergency relocation of personnel, operations, and functions.

1.2 APPLICABILITY AND SCOPE

This COOP Plan applies to the functions, operations, and resources necessary to ensure the continuation of essential functions if normal operations at VITEMA are disrupted or threatened. This COOP Plan is applicable to all VITEMA personnel and the interagency members of the Territory Coordination Center (TCC (notional)). All VITEMA staff is familiar with continuity policies and procedures and their respective continuity roles and responsibilities.

The objective of this COOP Plan is to ensure the execution of essential functions during any crisis and to provide for the safety and well-being of VITEMA employees during any emergency in which the VITEMA office is threatened or not accessible.

Specific objectives include:

- Ensure the continuous performance of essential functions during a disruptive event.
- Reduce loss of life and minimize damage.
- Protect essential facilities, equipment, essential records, and other assets.
- Reduce or mitigate disruptions to operations.
- Identify principals and supporting staff that would be relocated.
- Facilitate decision-making for execution of this plan and conduct of operations subsequent to plan execution.
- Provide alternative courses of action to minimize or mitigate the effects of the crisis and shorten the VITEMA crisis response time.
- Achieve a timely and orderly recovery from an emergency and resumption of full service to customers.

1.3 PLANNING ASSUMPTIONS

The VITEMA COOP Plan is based on the following assumptions:

- An emergency condition may require activation of the plan either with or without warning.

- VITEMA personnel who are relocated under this plan are collectively known as "VITEMA Management Team (VMT)" or "Emergency Relocation Group (ERG)." VMT staff will report to the primary EOC and/or continuity alternate location within 12 hours from the time of continuity plan activation, for up to a 30-day period or until normal operations can be resumed.
- The Emergency Relocation Site (ERS) will support ERG members and the continuation of VITEMA's MEFs for up to 30 days, or until VITEMA resumes normal operations.
- The emergency may not affect FEMA Region II regional operations, FEMA Region II-Caribbean Area Division (CAD), VITEMA-STJ, or VITEMA-STX and they will remain available to support VITEMA-STT directed actions.
- If VITEMA-STT's ERG deployment is not feasible due to personnel loss, VITEMA leadership and responsibilities will devolve to VITEMA-STX, VITEMA-STJ, FEMA Region II, and FEMA Region II-CAD offices per the VITEMA Devolution Plan.

1.4 OBJECTIVES

VITEMA's continuity of operations planning objectives are listed in Figure 1-1.

Figure 1-1: Continuity of Operations Planning Objectives

Objectives
<ol style="list-style-type: none">1. Ensure VITEMA can perform its MEFs under all conditions;2. Execute a successful order of succession, accompanied by the appropriate position-related authorities, in the event a disruption renders VITEMA leadership unable to assume and perform their authorities and responsibilities;3. Reduce or mitigate disruptions to VITEMA operations;4. Ensure VITEMA has backup facilities where it can continue to perform its MEFs , as appropriate, during a continuity event;5. Protect essential facilities, equipment, records, and other assets, in the event of a disruption;6. Achieve timely and orderly recovery and reconstitution of VITEMA territories from an emergency; and7. Validate continuity readiness and ensure operational capability through a dynamic and integrated continuity test, training, and exercise program.

1.5 ELEMENTS OF A VIABLE CONTINUITY CAPABILITY

The 10 continuity element requirements that are outlined in CGC 1 are summarized below and are included as Annexes to this Plan:

- A. VITEMA's Mission Essential Functions (MEFs) and Supporting Component MEFs: The identification and prioritization of essential functions is a prerequisite for continuity planning because they establish the planning parameters that drive the Agency's efforts in all other planning and preparedness areas. During an event that disrupts or has the potential to disrupt normal activities and that necessitates the activation of continuity plans, the resources and staff available to the Agency will likely be limited, and therefore the agency will not be able to perform all of its normal governmental functions. See Annex A for VITEMA's MEFs and Supporting Component MEFs. See Annex B for VITEMA Component's Essential Supporting Activities (ESAs).
- B. Orders of Succession: Identified Orders of Succession are an essential part of VITEMA's continuity program to ensure that Agency personnel know who assumes the authority and responsibility of the Agency's leadership if that leadership is incapacitated or becomes otherwise unavailable during a continuity situation. See Annex C.
- C. Delegations of Authority: Delegations of Authority provide designated VITEMA personnel with the authority to make key decisions during a continuity situation where the primary decision maker is not available. Predetermined Delegations of Authority will take effect when an emergency situation disrupts normal channels of direction and control, and ends when the Agency is able to reestablish those channels. See Annex D.
- D. Essential Records Management: During a continuity event, VITEMA ensures the identification, protection, and ready availability of electronic and hardcopy documents, references, records, information systems, and data management software and equipment (including classified and other sensitive data) that support VITEMA's MEFs. VITEMA personnel must have access to use these records and systems to perform mission essential functions and to reconstitute back to normal VITEMA operations. See Annex E.
- E. Continuity Facilities: VITEMA designated alternate operating facilities as part of this VITEMA COOP Plan and prepared VITEMA ERG personnel for the possibility of an unannounced relocation of essential functions and COOP contingency staff to these facilities. VITEMA's alternate/continuity facilities are located at National Guard Armory/STT, Myrah Keating Smith Health Center/STJ, and Joint Force Headquarters Virgin Islands National Guard/STX. VITEMA's secondary alternate/continuity facilities are located at University of Virgin Islands/STT, Governor House/STJ, and University of the Virgin Islands/STX. See Annex F.
- F. Reconstitution Operations Procedures: Reconstitution is the process by which surviving and/or replacement VITEMA personnel resume normal VITEMA operations from the original or replacement primary operating facility. See Annex G.

- G. Continuity Communications: The ability for VITEMA to execute its essential functions at its continuity facilities depends on the identification, availability, and redundancy of critical communications and information technology (IT) systems to support connectivity among key government leadership personnel, internal agency elements, other agencies, critical customers, and the public, during crisis and disaster conditions. See Annex H.
- H. Human Resources: VITEMA personnel are valuable to the organization. Choosing the right people for organizational staff is vitally important, and this is especially true in a crisis situation. Leaders are needed to set priorities and keep focus. During a continuity event, VITEMA will activate emergency employees and other special categories of employees to perform assigned response duties. See Annex I.
- I. Devolution: Devolution is the capability to transfer statutory authority and responsibility for essential functions from VITEMA's primary operating staff and facilities to other agency employees and facilities, and to sustain that operational capability for an extended period. See Annex J.
- J. Test, Training and Exercise (TT&E) Program: An effective TT&E program is necessary to assist VITEMA in preparing and validating its continuity capabilities. See Annex K.

1.6 SECURITY AND PRIVACY STATEMENT

This VITEMA COOP Plan is marked "For Official Use Only (FOUO)," and may be exempt from mandatory disclosure under the Freedom of Information Act (FOIA) Title 5 United States Code §552. This Plan is to be controlled, stored, handled, transmitted, distributed, and disposed of in accordance with Department of Homeland Security (DHS) Management Directive 11042.1, *Safeguarding Sensitive But Unclassified (For Official Use Only) Information*, and is not to be released to the public or other persons who do not have a valid "need to know" without prior approval of the Director, VITEMA.

The disclosure of information in this plan could compromise the security of essential VITEMA equipment, services, and systems or otherwise impair VITEMA's ability to carry out Agency MEFs. Distribution of the VITEMA Continuity of Operations Plan in its entirety is limited to those persons who need to know the information in order to successfully implement the plan.

The Director of Operations, VITEMA will distribute copies of the VITEMA Continuity of Operations Plan to individuals as required. Further distribution of the plan, in hardcopy or electronic form, is not permitted without prior approval from the Director, VITEMA.

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CHAPTER 2. CONCEPT OF OPERATIONS

2.1 INTRODUCTION

This plan will be implemented in response to anticipated or unanticipated incidents. The continuity implementation process includes four phases: readiness and preparedness, activation and relocation, continuity operations, and reconstitution.

2.2 PHASE I: READINESS AND PREPAREDNESS

Phase I: Readiness and Preparedness

Phase I is the normal operating mode for VITEMA and may include any combination of routine activities, activation of the TCC, and the support of response personnel and assets deployed to emergency locations. Phase I activities are conducted from VITEMA office using all primary systems and equipment. The continuity activities conducted during Phase I may include at the minimum the following:

1. Updating and maintaining the continuity plan;
2. Testing continuity systems and equipment;
3. Training on continuity procedures, policies, and protocols;
4. Exercising the continuity plan;
5. Conducting an After Action Review; and
6. Developing corrective action plans that aid in the updating and maintenance of the continuity plan.

Note: Phase I ends with an incident that triggers the activation of the Continuity Plan.

The VITEMA continuity program provides for the continuous performance of VITEMA MEFs by the right people, using the right resources, and supported with the right planning. The VITEMA Continuity of Operations Plan ensures a robust continuity capability, in accordance with direction in CGC 1.

VITEMA participates in the full spectrum of readiness and preparedness activities to ensure its personnel can continue MEFs in an all-hazard risk environment. A business impact analysis/risk assessment should be conducted all alternate facilities and is current and on file. VITEMA has divided VITEMA readiness activities into two areas: (1) organization readiness and preparedness, and (2) staff readiness and preparedness.

2.2.1 Organization Readiness and Preparedness

VITEMA components will conduct readiness and preparedness activities to support the guidance in this plan and performance of VITEMA MEFs, as well as develop internal COOP Implementation Plans to address the unique aspects of their respective responsibilities, plans, and procedures. Consistent with the guidance provided in this plan, VITEMA component COOP Implementation Plans will identify respective component MEFs or supporting tasks that support the overall VITEMA

MEFs and the staff the component requires to support them. At a minimum, component COOP Implementation Plans will include the following information:

- Name of organization;
- Date of Implementation Plan;
- Name and title of authorizing official (e.g., Director, Assistant Director, Deputy Director of Administration);
- Telephone number of authorizing official;
- FAX number of authorizing official;
- Cell telephone number (if applicable) of authorizing official;
- E-mail address of authorizing official;
- Identification of the organization's continuity point of contact (POC), including all relevant contact information;
- Prioritized list of organization's essential functions;
- Established Orders of Succession, including all relevant contact information;
- Pre-delegated authorities for making policy determinations;
- Copy of current VITEMA ERG Roster;
- Essential function(s) that individuals will perform during continuity;
- Current organization telephone notification cascade in the event the VI-ALERT Emergency Alert System (EAS) is not utilized;
- Specific location (i.e., building, office, workstation) at the ERS to which individual is assigned for duty;
- Identification of personnel responsible for compiling and maintaining an office drive-away kit;
- Inventory of equipment, essential records, information technology support, and communications support required to implement continuity;
- Inventory and location(s) of pre-positioned material and/or equipment; and
- A Reconstitution POC to work with Logistics Division and Finance & Administration Division.

2.2.2 Staff Readiness and Preparedness

VITEMA personnel must prepare and be ready to implement VITEMA continuity plans and procedures with or without warning. Continuity preparedness activities include:

1. Become familiar with the VITEMA COOP Plan;

2. Know organizational continuity responsibilities described in the component COOP implementation plan;
3. Keep required personal information updated in the EAS Database; and
4. Maintain essential files, records, and databases in individual COOP component folders.

When VITEMA implements COOP, ERG members must be operational at the VITEMA ERS, within 12 hours from the time the VITEMA Director activates the VITEMA COOP Plan, and be ready to perform essential functions for up to 30-days, or until normal operations resume. VITEMA's ERSs are located at National Guard Armory/STT, Myrah Keating Smith Health Center/STJ, Joint Force Headquarters Virgin Islands National Guard/STX. VITEMA's secondary ERS located at University of Virgin Islands/STT, Governor House/STJ, and University of the Virgin Islands/STX.

ERG members also have the responsibility to create and maintain drive-away kits. VITEMA component continuity managers are responsible for providing guidance to their ERG members on the requirement for, and contents of, these kits.

Due to the limited storage available at the National Guard Armory/STT, Myrah Keating Smith Health Center/STJ, and Joint Force Headquarters Virgin Islands National Guard/STX, ERG members are strongly encouraged to coordinate with the Building Manager to pre-position essential items and data rather than carrying them in a drive-away kit. ERG members may be away from the office or at home when the order to deploy is given, so ERG members must keep the drive-away kits for those items not pre-positioned offsite or at home to allow access to these items during a continuity of operations event. Suggested drive-away kit contents are listed in Table 2-1.

Table 2-1: Drive Away Kit

Drive Away Kit	
<ul style="list-style-type: none">• Identification and credit cards<ul style="list-style-type: none">◦ Government identification card◦ Driver's license◦ Government travel card◦ Health insurance card◦ Personal credit card◦ Cash• Communication equipment<ul style="list-style-type: none">◦ BlackBerry◦ Government/personal cell phone	<ul style="list-style-type: none">• Continuity Plan• Business and personal contact numbers<ul style="list-style-type: none">◦ Emergency phone numbers and addresses• Toiletries• Bottled water and non-perishable food• Medical needs<ul style="list-style-type: none">◦ Insurance information◦ List of allergies/blood type◦ Hearing aids and extra batteries◦ Glasses and contact lenses

Drive Away Kit	
<ul style="list-style-type: none"> o Government Emergency Telephone Service card • Hand-carried essential records • Directions to continuity facility • Business and leisure clothing 	<ul style="list-style-type: none"> o Extra pair of eyeglasses/contact lenses o Prescription drugs (30-day supply) • Over-the-counter medications, dietary supplements

- A. Personal Preparedness: VITEMA personnel should plan for emergencies in advance and develop a personal Family Support Plan to increase personal and family preparedness. A personal Family Support Plan template is available at www.ready.gov. This site also includes a "Get Ready Now" pamphlet that explains the importance of planning and provides a template that VITEMA employees and their family members can use to develop their specific plan.
- B. Continuity and Occupant Emergency Program: While VITEMA developed the Occupant Emergency Program (OEP) and the VITEMA COOP Plan in response to an array of emergencies, each serves a distinctly different purpose. The OEP ensures the entire building workforce is safe and accounted for in the event of an emergency, such as a fire in the VITEMA building, during normal business hours. The VITEMA COOP Plan ensures continuity personnel know when to deploy to an alternate/continuity site and how to proceed with the performance of the MEFs.
- C. Identification of Continuity Personnel: Key VITEMA personnel who relocate under this plan are collectively known as the ERG. ERG members are not considered members of an emergency team. They serve as "mission-critical" emergency employees who will support VITEMA continuity of operations. VITEMA expects ERG members to comply with alert/notification instructions during continuity operations. ERG members may deploy to the VITEMA ERS for up to 30 days, or until VITEMA resumes normal operations. See Annex L, Guidance For Selecting Continuity POC and ERG Member.
1. VITEMA personnel may serve concurrently on a VITEMA emergency team and as an ERG member for their organization. If the VITEMA COOP Plan and a VITEMA emergency team, such as the TCC, are simultaneously activated, the component leadership will determine which team the individual supports. If the individual supports an emergency team and does not support ERG, component leadership must ensure the ERG alternate is available to perform the required duties in support of the MEF or ESA.
 2. All VITEMA components should identify personnel within their organization who will perform their organization's Component Mission Essential Function (CMEFs) and Essential Supporting Activities (ESAs) that enable the performance of that assigned CMEF during VITEMA COOP Plan activation.

Each ERG member is selected by his/her respective component's Director or supervisor based on:

- a. The predetermined MEFs that the component must perform, regardless of the operational status of the VITEMA primary operating facility;
 - b. The member's knowledge and expertise in performing these MEFs; and,
 - c. The member's ability to rapidly deploy to the ERS in an emergency situation.
3. To track the staff components need for the VITEMA COOP Plan activation, each VITEMA component will:
- a. Maintain a Continuity ERG roster of all primary and alternate ERG members needed to perform the MEFs and supporting activities for that VITEMA component (see Figure 2-1); and,
 - b. Update its VITEMA component ERG roster monthly and submit the updated roster to the Deputy Director Operations or designated successor, VITEMA.
- D. Essential Records Management: Data maintained at VITEMA is available to support continuity of operations and deployed ERG members. VITEMA components will ensure that databases and other reference material supporting VITEMA MEFs are replicated at VITEMA-STX and VITEMA-STJ, pre-positioned at the ERS, carried with deployed personnel, or made available through an automated data backup process. VITEMA components will make all efforts to pre-position VITEMA essential files, records, and databases at designated alternate/continuity facilities. For essential records that cannot be pre-positioned, each VITEMA component will work with the Finance & Administration and Logistics Divisions to ensure these materials will be available during COOP operations. If ERG members have special supply requirements for performing their MEFs, they must pre-position these materials or include them in their ERG members' drive-away kits. See Annex E, Essential Records Management, for VITEMA's critical IT systems identified by the Logistics Division.
- E. Essential Records Plan Packets: VITEMA components are required to develop and maintain an Essential Records Plan Packet which includes the following:
1. A hard copy or electronic list of key Agency personnel and disaster staff with up-to-date telephone numbers;
 2. An essential records inventory with the precise locations of essential records;
 3. Updates to the essential records;
 4. Necessary keys or access codes;
 5. Alternate facility locations;

6. Access requirements and lists of sources of equipment necessary to access the records (this may include hardware and software, microfilm readers, Internet access, and/or dedicated telephone lines);
7. Lists of records recovery experts and vendors; and
8. A copy of the VITEMA component COOP Implementation Plan.

To ensure information is kept current, VITEMA components must review their COOP essential records packets annually and document the date and names of the person reviewing the information in writing. COOP Essential Records Plans Packets are due to VITEMA yearly at a predetermined date. The Assistant Director will combine all packets to form the overall VITEMA COOP Essential Records Plan Packet, and will securely maintain one copy at the primary ERS and one copy in the VITEMA office files.

- F. Essential Equipment and Supplies: VITEMA has pre-identified equipment, including technology and telecommunications hardware it needs to perform its MEFs. Annex A of each VITEMA component COOP Implementation Plan should contain component requirements necessary to support their MEFs. In addition, each component is responsible for the following activities:
1. Each component continuity POC is responsible for maintaining enough consumable office supplies to sustain their continuity operations and activities for up to 30 days, or until VITEMA resumes normal operations.
 2. Using established VITEMA procedures, VITEMA components will order necessary equipment and supplies not already in place at the ERS and will coordinate their orders with the Finance & Administrative and Logistics Division.
 3. The Finance & Administrative and Logistics Divisions will provide emergency procurement processing services as necessary to acquire equipment/supplies not already in place at the ERS.
- G. VITEMA Continuity POCs: VITEMA components must identify a primary and alternate Continuity POC to work with the VITEMA Assistant Director or designated Deputy of Operations to facilitate their component continuity planning requirements. A list of Continuity POC responsibilities is located in Chapter 3 of this Plan.

2.3 PHASE II: ACTIVATION AND RELOCATION

VITEMA activation and relocation plans to ensure operational capabilities at its continuity sites continue with minimal disruption to essential functions.

Activation begins with an incident that triggers an activation of the continuity plan. This triggering incident can be with or without warning, during work hours or after work hours. Whatever the incident or threat, the continuity plan will be executed in

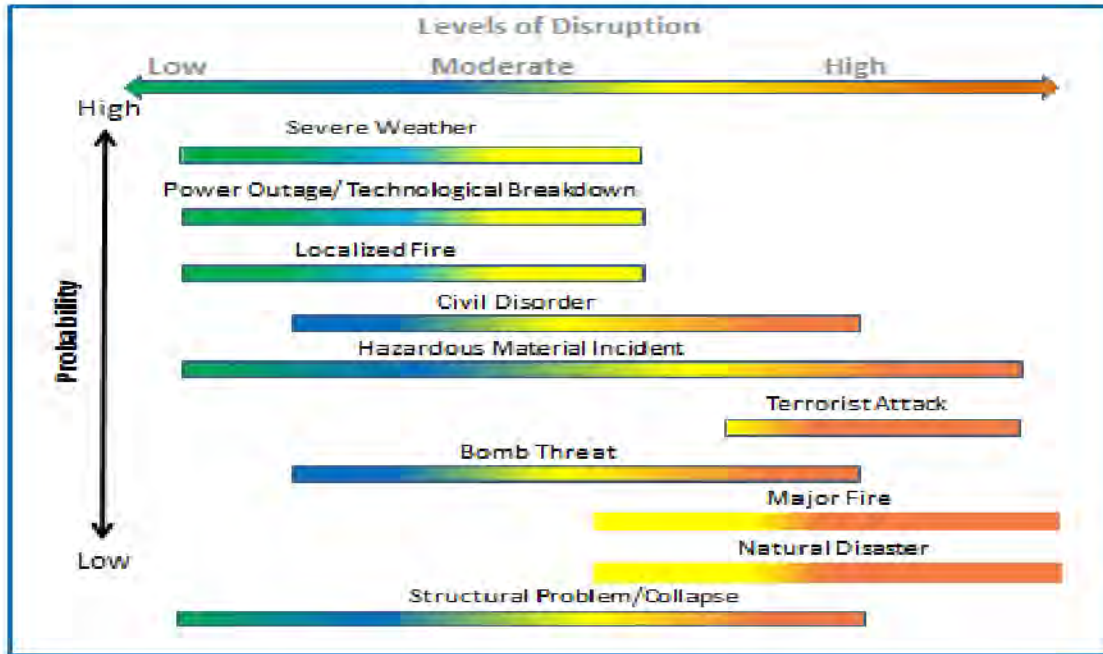
response to a full-range of disasters and emergencies, to include natural disasters, terrorist threats and incidents, and technological failures.

2.3.1 COOP Executive Decision Process

- A. Executive Decision Authority: The VITEMA COOP Plan may activate as follows:
1. The Governor may initiate Territorial Government continuity activation; or
 2. The Director of VITEMA, or designated successor, may initiate COOP activation for VITEMA based on a localized emergency or threat.
- B. National Terrorism Advisory System (NTAS) Procedures: VITEMA established internal plans and procedures for implementing the Department of Homeland Security (DHS) National Terrorism Advisory System (NTAS). See Annex M for the NTAS alert.
- C. Executive Decision Process: The decision to activate the VITEMA COOP Plan starts with every incident. The VITEMA Senior Management Group- COOP (SMG-COOP) is comprised of the VITEMA Director; VITEMA Assistant Director; Deputy Director Administration/Finance; Deputy Director Operations; Deputy Director Logistics; Deputy Director Grants/TPAO; and Deputy Director Preparedness. Upon full activation from COGCON 4 or Executive Decision Authority (Section 2.3.1 A), ERG members deploy to the designated VITEMA ERS location, to establish an operational capability and to perform MEFs within 12 hours from the time the VITEMA Director or designee activates the VITEMA COOP Plan. If the COGCON Level is raised, ERG members deploy in accordance with the COGCON guidance and transition to successive stages as appropriate (See Annex N).

Figure 2-3 illustrates the types of emergencies and situations that potentially could threaten or disrupt normal operations at VITEMA.

Figure 2-3: Levels of Disruption to VITEMA Operations



The following scenarios illustrate situations that could mandate activating the VITEMA COOP Plan:

1. COGCON or NTAS changes that raise the threat level.
2. VITEMA facilities, or portions of a facility, cannot accommodate normal business activities as a result of an unfavorable event, such as structural or mechanical failure, fire, or minor explosion. In this scenario, partial continuity of operations relocation may be implemented. Any needed personnel evacuation will follow VITEMA's OEP.
3. VITEMA facilities and surrounding areas temporarily cannot accommodate normal business activities due to an unfavorable event not originating in VITEMA facilities, such as a nearby building collapse, air or water contamination, or loss of electrical power. In this scenario, partial continuity of operations relocation may occur. Any needed personnel evacuation will follow VITEMA's OEP.
4. The USVI main islands area is closed to normal business activities due to a widespread utility failure, terrorism, natural disaster, significant hazardous material incident, or civil disturbance. In this scenario, there may be uncertainty of additional events, such as secondary explosions, aftershocks, or cascading utility failures. In this scenario, full continuity of operations relocation may occur.

5. The USVI main islands area is declared a national emergency site and/or all Territorial Government operations have been shut down. In this scenario, continuity of operations activation and/or full devolution will likely occur.
6. The office, or the floors that VITEMA occupies, is closed to normal business activities as a result of an event (whether or not originating in the building) or credible threats of action that would preclude access or use of the building and the surrounding area.
7. The area around the VITEMA office is closed to normal business activities as a result of a widespread utility failure, natural disaster, significant hazardous material incident, or civil disturbance. Under this scenario there could be uncertainty regarding whether additional events such as secondary explosions, aftershocks, or cascading utility failures could occur that require activation of the Continuity Plan.
8. The Governor of USVI, or designated successor, may initiate continuity plan activation for all departments and agencies, based on an emergency or threat directed at the organization.
9. A public health emergency affecting the USVI or the surrounding area that requires medical isolation, quarantine, or social distancing. Examples of public health emergencies may include pandemic influenza, bio-terrorism, or a naturally occurring outbreak of a contagious or infectious disease.
10. VITEMA facilities and personnel are unavailable to execute MEFs as a result of an extreme natural disaster, weapons of mass destruction (WMD) crisis, or other similar catastrophic event. Under this scenario, VITEMA functions would devolve in accordance with the VITEMA Devolution.

In these scenarios, the VITEMA Director in coordination with the with the Regional Administrator, or appropriate successor, will activate the continuity plan. Activation of the continuity plan initiates the deployment of the ERG to the continuity site or other alternate locations as determined by VITEMA Director in coordination with the Regional Administrator at the time of the event.

It is expected that, in most cases, the VITEMA Director will receive a warning at least a few hours prior to an incident. Under these circumstances, the process of activation would normally enable the partial, limited, or full activation of the continuity plan with a complete and orderly alert, notification, and deployment of the ERG to the continuity site. The VITEMA ERG has two components: The Initial Contingency Staff (ICS) that deploys first and gets the continuity site up and running, and the ERG, which arrives later and takes over performance from the ICS for the longer term. The ICS will check that their Go-Kits are complete and relocate to the continuity site. The ERG assembles any remaining documents/equipment and initiates necessary arrangements to perform essential functions. Security personnel will take the appropriate measures to ensure security of the VITEMA Office, equipment, and/or records remaining in the building.

Should an incident occur during duty hours, it may be necessary to activate the Occupant Emergency Plan (OEP) for VITEMA, in conjunction with the continuity plan. Should the OEP be activated, the VITEMA Director in coordination with the Governor or successor will determine the requirements of continuity activation after all personnel are accounted for at the evacuation assembly site.

2.3.2 Alert and Notification Procedures

- A. VITEMA will receive a warning of at least a few hours prior to an incident. Under those circumstances in which a warning is deemed credible, and to have a potential impact on the functionality of territory operations, it is further expected that a forethoughtful and structured process of a limited or full activation of this plan will be executed. This activation will include a complete and orderly alert, notification, and deployment of the Initial Contingency Staff of the ERG to a designated ERS, followed shortly thereafter by the entire ERG.
 - 1. Without prior warning to an incident, the activation process becomes less routine, and potentially more serious and difficult. The ability to execute this COOP following an incident that occurs with little or no warning will depend on the severity of the incident's impact on physical facilities, and whether personnel are present and fit for duty.
 - 2. Positive personnel accountability throughout all phases of an emergency to include the continuity of operations is of utmost concern, especially if the emergency occurs without warning during duty hours.
- B. Arrival of the ERG Initial Contingency Staff
 - 1. Upon arrival at the designated ERS, the ERG Initial Contingency Staff which has been identified will report to the Continuity Coordinator/Designee to check-in.
 - 2. The Continuity Coordinator/Designee will disseminate administrative and logistical information to ERG Initial Contingency Staff members upon arrival. This information should cover a period of up to seven (7) days.
 - 3. As appropriate, Initial Contingency Staff members will begin to retrieve pre-positioned information and data and activate specialized systems or equipment.
- C. ERG Initial Contingency Staff Responsibilities

As soon as possible, following their arrival at the ERS, members of the Initial Contingency Staff will begin providing support to include, but not limited to the following functions:

 - 1. Establish and maintain necessary communications links and equipment;
 - 2. Establish and maintain contact with essential field operations, VITEMA-STX, VITEMA-STJ, FEMA Region II-CAD.
 - 3. Monitor and assess the situation that required COOP relocation;

4. Monitor the status of VITEMA personnel and resources;
 5. Coordinate physical preparations for the arrival of ERG Emergency Personnel;
 6. Plan and schedule site operations;
 7. Prepare and disseminate instructions and reports as required;
 8. If necessary and possible, coordinate with Finance & Administrative and Logistics Divisions to secure and lease a facility large enough to accommodate the ERG for up to thirty (30) days.
 9. Continue essential functions.
- D. Non-ERG Staff
- Note: Currently, non-ERG personnel are not applicable at VITEMA.
- B. Other Federal Departments and Agencies Notifications: The VITEMA EOC will notify other Departments and Agencies (D/As) using the VI-ALERT EAS and/or using telephone conferences. Individual and D/A Operation Centers notified by the EOCs are responsible for further dissemination of the threat condition changes within their subordinate organizations.
- C. Territory Notifications: The VITEMA will issue notifications over the National Alert and Warning System (NAWAS) in accordance with NAWAS operating procedures. VITEMA will verify notification receipt by conducting a roll call after the broadcast. VITEMA-STX, VITEMA-STJ, and government agencies will verify receipt at their local warning points. VITEMA develops and establishes procedures to relay threat condition notifications throughout the Territory.

2.3.3 Relocation Process

When VITEMA activates continuity of operations plans, the ERG deploys to the assigned ERS to perform VITEMA MEFs, component MEFs, and other continuity tasks. VITEMA personnel not designated as ERG members will move to another VITEMA facility or duty station or remain or return home until further notice. Office and Programs Managers are responsible for providing guidance to their members on the requirement for and the contents of emergency relocation kits, which may contain but are clearly not limited to such items as:

1. Software.
2. Databases.
3. Publications.
4. Laptop computers.
5. Maps & GIS products.
6. Guidance documents.

It is strongly encouraged that essential items and data be pre-positioned at the other off-site location instead of being carried in an emergency relocation kit, because dependent on the location of ERG members at the time an order to deploy is received, access to the emergency relocation kits may be difficult or impossible.

- A. Emergency Relocation Site: The VITEMA's ERS located at National Guard Armory/STT, Myrah Keating Smith Health Center/STJ, and Joint Force Headquarters Virgin Islands National Guard/STX. VITEMA's secondary ERS located at University of Virgin Islands/STT, Governor House/STJ, and University of the Virgin Islands/STX. Annex F, Continuity Facilities, includes directions to the both facilities, a map of the sites, and floor plans identifying ERG members seating assignments. VITEMA will work with all component's Continuity POCs annually, as well as during and after an actual event, to resolve any ERS issues. Specific room requirements for VITEMA components are located in individual COOP Implementation Plans.
- B. Departure of ERG and Non-ERG Members:
During duty hours with or without warning:
1. ERG members will depart for their designated ERS; and
 2. Non-ERG members at VITEMA or other locations at the time of an emergency notification will receive instructions. In most scenarios, VITEMA will direct non-ERG members to proceed to their homes or to other VITEMA facilities to await further guidance.
- During non-duty hours with or without warning:
1. Each ERG member will depart for his/her assigned ERS; and
 2. Non-ERG members will remain at their residence or current location to await further instructions.
- C. Transition of Responsibilities to the Deployed ERG: VITEMA will continue to operate, if practical and appropriate, at primary operating facilities. The Director of VITEMA, or designated successor, upon arrival at the ERS, will order the cessation of all or select operations at the VITEMA building once they make a determination the ERS and supporting ERG staff have a sufficient level of redundant operations running to terminate operations within the primary building on the Islands. This determination will transfer all authorities and MEF responsibilities to the ERS.

2.4 PHASE III: CONTINUITY OPERATIONS

The advance team will arrive at the continuity facility to prepare the site for the arrival of the continuity personnel. Upon arrival at the continuity facility, the advance team will:

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1. Ensure infrastructure systems, such as power and heating, ventilating, and air conditioning are functional.
2. Prepare check-in duty stations for ERG arrival.
3. Address telephone inquiries from ERG and non-ERG staff.

As continuity personnel arrive, the [insert office/title], with assistance from advanced team, will conduct in-processing to ensure accountability/credentialing.

Credentialing

The primary and secondary alternate facilities receiving the ERG will set up a reception area in the lobby of the facility to account for arrival of ERG members and provide them with accommodation information, facility access control rights and privileges, and in-processing and out-processing procedures. VITEMA personnel will receive designated access control badges once they arrive during the sign-in process. These badge will be issued and controlled by a person designated from the alternate facility ERG.

Upon arrival at the continuity facility, the VITEMA continuity personnel will:

1. Report immediately to VITEMA for check-in and in-processing.
2. Receive all applicable instructions and equipment.
3. Report to their respective workspace as identified in [insert location] or as otherwise notified during the activation process.
4. Retrieve pre-positioned information and activate specialized systems or equipment.
5. Monitor the status of VITEMA's personnel and resources.
6. Continue VITEMA's essential functions.
7. Prepare and disseminate instructions and reports, as required.
8. Comply with any additional continuity reporting requirements with VITEMA.
9. Notify family members, next of kin, and emergency contacts of preferred contact methods and information.
10. A requirement of continuity personnel is to account for all VITEMA personnel. VITEMA will use the following processes to account for all personnel:

During continuity operations, VITEMA may need to acquire necessary personnel, equipment, and supplies on an emergency basis to sustain operations for up to 30 days or until normal operations can be resumed.

Mobilization of Non-ERG Personnel:

Non-ERG personnel present at VITEMA at the time of an emergency notification will be directed to proceed to their homes or other facilities to await further instructions. At the time of notification, information should be provided regarding routes of egress from VITEMA's facilities and / or other appropriate safety precautions.

In Processing Procedures:

Status reporting and In-processing procedures are an important step in the accountability and continuation of essential functions and activities. Specific information packets have been provided to all ERG members for inclusion in their go kits. This packet includes:

- ERG checklist.
- Family Planning Information.
- Directions to each of the VITEMA Alternate Facilities.
- Reporting Instructions including Alternate Facility Point of contacts.
- In-Processing steps and procedures.

Upon arrival at the identified alternate facility, special ERG information packets will be provided to arriving ERG members and will include information, such as:

- Hours of operation.
- Accommodations information.
- Safety and security measures and access control information.
- Local contact and emergency points of contacts.
- Reporting time, location and verification of role.

Out-Processing Procedures:

Out-processing procedures is another important step in the accountability process. Alternate Facility Information packets should be returned. Reporting or reconstitution steps will be provided at time of out-processing.

- Return Alternate Facility Information packets.
- Sign-out roster.
- Process out of the hotel where you were staying.
- If a VITEMA vehicle was provided, sign appropriate documentation and return at time of out-processing.
- Return any access control or keys which were provided.

Access Control:

All of the alternate facilities have access control procedures in place. Increased security countermeasures and verification will be in place during the entire period of VITEMA COOP activation.

Reporting: Each VITEMA component must account for all their personnel and provide a Daily Status and Attendance Report (STATREP) to EOC during any continuity of operations situation. This report should include personnel accountability, continuity activities, and any issues related to the conduct of the operation. Capturing this information in a daily report enables VITEMA to accurately document and prepare critical After-Action Reports.

- A. Each VITEMA component will complete the initial STATREP no later than two hours after arrival at the ERS. Components will e-mail an electronic copy of the

STATREP to the XXXXX using XXXXX or hand-carry a hard copy of the report to the EOC in the ERS.

- B. Each VITEMA component will submit a daily STATREP thereafter at 3:00 p.m. If there are no significant updates to report, the component must state so in the next report submittal (see Annex O, COOP Daily Status and Attendance Report, for a copy of the report).

2.5 PHASE IV: RECONSTITUTION OPERATIONS

Reconstitution operations begin when the VITEMA Director, or designated successor, activates the VITEMA Continuity of Operations Plan. The Assistant Director, Finance and Administration Division, and Logistics Division serves as the VITEMA Reconstitution Managers, who have ultimate responsibility for the planning and execution of reconstitution operations in coordination and collaboration with the Reconstitution Points of Contact.

Reconstitution includes the ability of VITEMA to recover from a catastrophic event and consolidate the necessary resources that allow it to return to a fully functional entity of the Territory Government. Reconstitution is also the process by which surviving and/or replacement VITEMA personnel resume normal agency operations from the primary operating facility, a temporary operating facility, or a new permanent operating facility.

Reconstitution comprises four phases: pre-event preparedness planning, event planning, implementation of operations, and the end of reconstitution. See Annex G for additional information.

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CHAPTER 3. CONTINUITY RESPONSIBILITIES

3.1 INTRODUCTION

This chapter describes VITEMA's continuity personnel that have duties in accordance with their position. The responsibilities of key continuity personnel are delineated in Table 3-1 below.

Table 3-1: Continuity Responsibilities listed by Position

Position	Responsibilities
All VITEMA Component Senior Leadership (Continuity Planning)	<ul style="list-style-type: none"> • Appoint a Continuity POC to coordinate and implement the VITEMA COOP Plan and inform the Deputy Director of Operations of any changes in the designation of this VITEMA component Continuity POC. • Approve component COOP Implementation Plans that support the VITEMA COOP Plan and address the unique aspects of their respective requirements, plans, or procedures. • Identify and prioritize essential functions. • Select ERG members based on experience performing component essential functions and their ability to rapidly deploy. • Approve processes and procedures needed to implement and support component MEFs during a continuity event. • Notify non-ERG members of their roles and responsibilities. • Approve a written Order of Succession and sign appropriate Delegations of Authority. • Ensure all ERG and non-ERG members understand the VITEMA COOP Plan procedures and are fully equipped and trained to perform these assigned responsibilities. • Establish capability to telework and approve telework agreements. • Establish provisions for completing Time and Attendance (T&A) functions by one or more ERG members are in place, and include T&A provisions for non-ERG members. • Budget for all Continuity -related expenses, such as equipment, travel, transportation, component yearly rent for space at the ERS, and billeting. • Coordinate with Territory component offices to ensure all their continuity of operations requirements are identified and budgeted using a five-year Multiyear Strategy and Program Management Plan. • Identify all information technology requirements and procure needed equipment for the ERS site. • Designate component essential files, records, and databases vital for Continuity activities are available at the ERS. • Participate in and oversee Test, Training, and Exercise events.

Position	Responsibilities
All VITEMA Component Senior Leadership (Continuity Activation)	<ul style="list-style-type: none"> • Ensure ERG and non-ERG members comply with the emergency notification process. • Notify points of contact, adjacent agencies, customers and stakeholders of Continuity Plan activation and relocation to alternate facility, as required. • Implement the procedures in place for the completion of Time and Attendance. • Provide guidance to ERG and non-ERG members. • Account for component personnel.
Director, VITEMA (Continuity Planning)	<ul style="list-style-type: none"> • Inform the Governor of the USVI of any threats that may affect VITEMA. • Coordinate with VITEMA components on all ERG logistical matters related to the ERS. • Brief Governor of the USVI on Continuity issues, as required. • Provide overall continuity guidance and support to VITEMA components. • Provide strategic leadership and overarching policy direction for the continuity program. • Update and promulgate orders of succession and delegations of authority. • Ensure adequate funding is available for emergency operations • Ensure all organization components participate in continuity exercises. • Update Continuity Plan annually.
Director, VITEMA (Continuity Activation)	<ul style="list-style-type: none"> • Implement the Continuity Plan when necessary, or when directed by a higher authority. • Notify the ERS that the VITEMA COOP Plan has activated. • Using Critical Information Requirements and in collaboration with DAs, identify risk and interdependencies, assess future impacts to continuity, recommend actions to mitigate effects and track implementation. • In conjunction with Finance/Administration Division, Logistics Division, support the orderly transition of all VITEMA functions, personnel, equipment, and records to the ERS and back to a new or restored VITEMA facility. • Conduct senior leadership meetings to provide situational awareness, gather info on issues, and discuss any next steps.

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Position	Responsibilities
Deputy Director, Operations (Continuity Planning)	<ul style="list-style-type: none"> • Approve and provide ERS Site process in support to VITEMA Continuity ERG members at the EOC. The support provided will include: physical security, office space, communications, administrative support and supplies, food services, medical services, transportation (on-site), and billeting as available. • Identify EOC missions or functions that can defer or terminate in the event the VITEMA COOP Plan is activated. • Designate personnel to assist the arriving TCC and ERG members. • Support periodic coordination visits and annual exercises involving the VITEMA ERG members. • Inform the VITEMA Director, of any changes in site resources that may impact the effective execution of the VITEMA COOP Plan.
Deputy Director, Operations (Continuity Activation)	<ul style="list-style-type: none"> • In conjunction with Finance/Administration Division, Logistics Division, and the VITEMA Director, support the orderly transition of required VITEMA functions, personnel, equipment, and records from the ERS to a new or restored facility. • Provide housing for TCC and ERG members, if available. • Provide dining facilities and meals for TCC and ERG members, at the local per diem rate. • Provide medical services for TCC and ERG members located at the ERS.
Deputy Director of Logistics-Facilities Management (Continuity Planning)	<ul style="list-style-type: none"> • Coordinate reconstitution operations planning with VITEMA leadership.
Deputy Director of Logistics – Facilities Management (Continuity Activation)	<ul style="list-style-type: none"> • If the situation is expected to persist for more than several days, request the Postal Service forward VITEMA mail to the ERS. • Serve as the Reconstitution Manager and oversee all phases of the reconstitution operations process. • In conjunction with the, oversee the orderly transition of all VITEMA functions, personnel, equipment, and records to the ERS and then back to a new or restored VITEMA facility. • Develop plans and schedules for transitioning all VITEMA essential functions, personnel, and equipment from the ERS to the reconstituted VITEMA facility in an orderly manner. • Inform and/or update VITEMA senior management of the status of the reconstitution operations effort.

Position	Responsibilities
Finance/Administration Division Operations Division (Continuity Activation)	<ul style="list-style-type: none"> • Administration Personnel – Provide Human Resources support services, tools, policies, procedures, and strategies to support Continuity. • Records Management – Ensure the Records and Documents Management functions are sustained along with Freedom of Information Act requests and Privacy Act issues. • Purchasing and Vendor Payment Office – Ensure acquisition management functions for daily operations. • Security Services – Provide security services inclusive of personnel, physical (access control, building security, and badging), information security, counterintelligence awareness, and law enforcement coordination matters at fixed facilities and disaster locations.
Finance/Administration Division Logistics Division (Continuity Planning)	<ul style="list-style-type: none"> • Develop a VITEMA Continuity information technology plan in coordination with VITEMA-STJ and VITEMA-STX that details transitioning critical VITEMA Continuity telecommunications, essential records, and information systems from VITEMA to the ERS and from the ERS to a reconstituted VITEMA facility. • Coordinate VITEMA component Continuity activation plan telecommunications and information systems requirements (i.e., personal computers, software, connectivity, data, secure and non-secure voice, e-mail). • Provide guidance on managing essential records. • Consider unique or critical information system requirements in planning and, if appropriate, identify capabilities to be provided by ERS support organizations. • Provide guidance on backing up and transferring of essential VITEMA COOP data files on the VITEMA Continuity server at the ERS, including e-mail, to all ERG members. • Ensure software backup procedures are clear and understandable to all ERG members while operating at the ERS facility. • Coordinate with the Director to establish guidance on alternatives to storing data on the Continuity server and in Continuity folders. • Review all network loading to ensure optimal information processing capabilities. • Ensure sufficient phone lines are provided to support all organizations and employees and personnel with disabilities. • Ensure Secure Telephone Equipment capabilities are available and working properly. • Provide instructions to ERG members on how to copy files to the appropriate Continuity folder(s). Verify published and distributed procedures are clear, accurate, and work for all types of workstations and network environments at the ERS.
Finance/Administration Division Logistics Division (Continuity Activation)	<ul style="list-style-type: none"> • Support the activation and deployment of all VITEMA functions, personnel, equipment, and records to the ERS. • Support reconstitution operations of all VITEMA functions, personnel, equipment, and records at a new or restored facility. • Inform and/or update VITEMA senior management of the status of telecommunications and information systems.

Position	Responsibilities
ERG Members (Continuity Planning)	<ul style="list-style-type: none"> • Be familiar with the VITEMA COOP Plan and their respective organization's COOP Implementation Plan. • Keep telework agreements current. • Understand the MEFs your component performs those during a Continuity event and where your component performs the MEFs. • Identify all personal and professional materials required to activate the VITEMA COOP Plan. To the maximum extent possible, pre-position these materials at the ERS. • Prepare a drive-away kit that contains all personal and professional items not yet pre-positioned for activation. Store these items at a location other than your primary work site. • Ensure all necessary data, files, databases, etc., are copied to the VITEMA Continuity folder on a daily basis. • Participate in VITEMA Continuity TT&E. • Be accessible 24-hours-a-day, 7-days-a-week for potential notification of Continuity activation. • Make arrangements in advance to ensure you have someone who will satisfactorily address your personal and home responsibilities during an extended absence. • Develop a personal Family Support Plan. • Be prepared to deploy and support organization essential functions in the event of continuity plan implementation. • Provide current contact information to manager. • Be familiar with continuity planning and know individual roles and responsibilities in the event of continuity plan activation. • Participate in continuity training and exercises as directed. • Have a telework agreement for this position, if applicable.
ERG Members (Continuity Activation)	<ul style="list-style-type: none"> • Respond to EAS alert notifications. • Relocate, when notified and if available, according to directions provided. • Coordinate with supervisor to ensure awareness of deployment and to ensure accountability. • Report upon arrival at the ERS and begin performing MEFs, as required. • Perform essential function(s) throughout the duration of the Continuity activation.
Non-ERG Members (If applicable) (Continuity Planning)	<ul style="list-style-type: none"> • Be thoroughly familiar with the VITEMA COOP Plan. • Understand the MEFs your component performs during a Continuity event and the location where your component performs the MEFs.

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Position	Responsibilities
Non-ERG Members (If applicable) (Continuity Activation)	<ul style="list-style-type: none"> • During duty hours, non-ERG members in most sections will proceed to their homes or to other VITEMA facilities to wait for additional guidance. At the time of notification, the EAS message will provide routes building occupants should use to depart VITEMA if available, along with other appropriate safety precautions. • During non-duty hours, non-ERG members will remain at their homes to wait for instructions. • Non-ERG members are required to remain in contact with their supervisors in order to receive Continuity status updates. • As required, non-ERG members will report to the ERS to relieve ERG members when directed to do so by their supervisors.
COOP Points of Contact (Continuity Planning)	<ul style="list-style-type: none"> • Represent component at VITEMA Continuity Working Group Meetings. • Keep senior leadership apprised of Continuity issues, and upcoming training events. • Ensure designated successors receive training for their potential responsibilities. • Maintain ERG Roster, sending monthly updates to VITEMA Finance/Administration Division. • Ensure ERG members have been notified in writing of their designation as "mission-critical" emergency. • Maintain component personnel information in the VI-Alert (Emergency Alert System). • Maintain component Cascade Roster. • Develop and maintain component Continuity Implementation Plan. • Ensure that essential records, files and databases needed to support component essential functions have been identified and backup copies (records/files/databases) are updated/stored at the ERS/on the Continuity server. • Ensure that all ERG and non-ERG members understand the VITEMA COOP Plan and procedures and are fully equipped and trained to perform assigned responsibilities. • Working with senior leadership, maintain a current written order of succession and signed delegations of authority for the component. • Ensure provisions for financial obligations are in place prior to and during a Continuity event/deployment. • Update software application requirements for Continuity with the Information Technology (IT) Office. • Ensure the ERS is stocked with required supplies and equipment for component to perform during a Continuity event.
COOP Points of Contact (Continuity Activation)	<ul style="list-style-type: none"> • Report to the ERS and collect information for COOP STATREP. • Submit the daily status and attendance report to Finance/Administration Division. • Serve as a liaison with VITEMA to report status and issues at the ERS. • Keep senior leadership informed of continuity updates as required.

CHAPTER 4. DISASTER INTELLIGENCE

4.1 INTRODUCTION

This Chapter describes the critical or essential information common to all continuity events. Table 4-1 identifies the type of information needed, the source of that information, who should receive it, how it should be shared, the format in which it should be received, and any specific times or dates associated with the information.

Table 4-1: Continuity Reporting Requirements

Information Element	Specific Requirement	Responsible Element	Deliverables	When Needed	Distribution
Personnel Accountability	Account for all ERG and non-ERG employees Account for all contract personnel	Component Leadership	STATREP due to CST	Initial Status required 2 hours following Plan activation, then daily	VITEMA Dimector , all component leadership, and Executive Officers-Business Managers
Operational Status	Percent of ERG personnel arrived at site Ability to conduct each essential function Status of communications and IT systems	Component Continuity POC/Divisional representatives	Situation briefings Situation reports	Include in STATREP reports	VITEMA Dimector , all component leadership, and Executive Officers-Business Managers
Hazard Information	Threat details specific to the continuity facility	Territory Coordination Center or Emergency Operations Center	Situation briefings Situation reports	Two times a day at shift change	VITEMA Dimector and all component leadership

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CHAPTER 5. BUDGETING AND ACQUISITION

VITEMA requires VITEMA components to develop a continuity budget that supports their ability to support VITEMA's continuity of operations program. The VITEMA Multi-Year Strategy and Program Management Plan (MYSPMP) is an integrated effort and includes the TT&E Plan and the COOP Division 5-year Strategic Plan. Each component must identify and program funds for their annual continuity requirements in their respective component spend plans. These funds may include, but are not limited to, the cost of equipment and supplies; travel; and test, training, and exercise events. The Director of Finance/Administration Division is responsible for providing a project code to capture and correctly categorize continuity-related expenses.

For contracts that support performing VITEMA MEFs, VITEMA components must ensure contractor statements of work include appropriate provisions for the provision of staffing, services, and necessary resources during emergency conditions.

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CHAPTER 6. PLAN DEVELOPMENT AND MAINTENANCE

As part of the annual continuity plans and procedures maintenance, VITEMA will review and update the VITEMA Continuity of Operations Plan, MEFs, and supporting activities annually. Components may provide comments or suggestions for improving this Plan at any time. VITEMA components continuity POCs will review and update VITEMA's Continuity of Operations Plan and will forward the updated Plan to Assistant Director for review, approval, and posting.

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CHAPTER 7. RISK MANAGEMENT

In this section, organizations should reference their risk assessment, to include a Business Impact Analysis, and risk operational plans, per CGC 1, Annex B, and CGC 2, Annex D, to summarize the hazards faced by their organization and the relative probability and impact of the hazards. In order to fully meet requirements from CGC 1 and 2, organizations have to integrate risk assessment and mitigation into Continuity programs.

VITEMA applies a risk-based framework across all Continuity efforts in order to identify and assess potential hazards, determine what levels of relative risk are acceptable, and prioritize and allocate resources and budgets to ensure Continuity under all manner of incident conditions.

RISK ASSESSMENT

Organizations must conduct and document a risk assessment, to include a Business Impact Analysis, against all hazards, conducted at least every five years. Per CGC 1, Annex B, the assessment must include:

- Identification of potential, known risk, and the likelihood of its occurrence, which has direct impact on the ability of the organization to support the continuation of Essential Functions;
- An assessment of the vulnerability of the organization and its Essential Functions to identified hazards;
- An assessment of the impact of the failure of the identified Essential Functions caused by identified hazards;
- Identification of appropriate mitigation and protective measures, to include measures necessary during a pandemic influenza;
- A cost-benefit analysis of implementing risk mitigation, prevention, protection, or control measures; and
- An operational plan to provide and implement selected mitigation, prevention, protection, or control measures, to include those necessary during a pandemic.

VITEMA has conducted and documented a risk assessment, to include a Business Impact Analysis, against all hazards for all capabilities associated with the continuance of Essential Functions, to include all primary operating facilities, Continuity facilities, personnel, systems, and records. The Risk Assessment is updated at least every five years. Risk-specific appendices that address the results of the VITEMA risk assessment are found later in the plan.

RISK MITIGATION PLANS

Organizations must develop operational plans to provide and implement selected mitigation measures, to decrease the threat of and impact from identified risks, to include pandemic, using the following process from CGC 2, Annex F, Form 7: Risk Mitigation Plan Template, dated October 2013.

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CHAPTER 8. AUTHORITIES AND REFERENCES

8.1 INTRODUCTION

VITEMA developed this Plan in accordance with Executive Order 12656, *Assignment of Emergency Preparedness Responsibilities*; National Security Presidential Directive – 51/Homeland Security Presidential Directive(HSPD) – 20, *National Continuity Policy*; Homeland Security Council, *National Continuity Policy Implementation Plan*; Continuity Guidance Circular 1 (CGC 1), *Continuity Guidance for Non-Federal Governments (States, Territories, Tribes, and Local Government Jurisdictions)*, July 2013; Department of Homeland Security Management Directive 9300.1, *Continuity of Operations Programs and Continuity of Government Functions*; and other related directives and guidance.

8.2 AUTHORITIES

- *The National Security Act of 1947*, as amended, 50 U.S.C. 401.
- *The Homeland Security Act of 2002*, “HSA”. (6 U.S.C. § 101-557).
- *Robert T. Stafford Disaster Relief and Emergency Assistance Act*, as amended (42 U.S.C. § 5121-5206), hereafter referred to as “*Stafford Act*” of 2007.
- Executive Order 12148, *Federal Emergency Management*, July 20, 1979, as amended.
- Executive Order 13618, *Assignment of National Security and Emergency Preparedness Communications Functions*, July 6, 2012.
- Executive Order 12656, *Assignment of Emergency Preparedness Responsibilities*, November 18, 1988, as amended.
- National Security Presidential Directive – 51/ Homeland Security Presidential Directive – 20, *National Continuity Policy*, May 2007.
- Department of Homeland Security Management Directive 9300.1, *Continuity of Operations Programs and Continuity of Government Functions*.
- Department of Homeland Security (DHS) Management Directive 11042.1, *Safeguarding Sensitive But Unclassified (For Official Use Only) Information*.
- *The Telework Enhancement Act of 2010*, H.R. 1722.
- *Virgin Islands Code, Title 23, the VITEMA Act (5233) of 1986*.
- *Emergency Management Act of 2009 (Act 7074)*.
- *The Rehabilitation Act of 1973*.

8.3 REFERENCES

- Title 44, Code of Federal Regulations (CFR) Part 2, Subpart A – *Organization, Functions, and Delegations of Authority*.

- Title 41, CFR 101-20.103-4, *Occupant Emergency Program*.
- Title 36, CFR Part 1236, *Management of Vital Records*.
- Presidential Decision Directive 62, *Protection Against Unconventional Threats to the Homeland and Americans Overseas*, May 22, 1998.
- Department of Homeland Security (DHS) National Terrorism Advisory System (NTAS), April 20, 2011.
- HSPD 5, *Management of Domestic Incidents*, February 28, 2003.
- HSPD 7, *Critical Infrastructure Identification, Prioritization, and Protection*, December 17, 2003.
- Federal Continuity Directive 1 (FCD 1), *Federal Executive Branch National Continuity Program and Requirements*, October 2012.
- Continuity Guidance Circular 1 (CGC 1), *Continuity Guidance for Non-Federal Governments*, July 2013.
- Federal Continuity Directive 2 (FCD 2), *Federal Executive Branch Mission Essential Functions and Candidate Primary Mission Essential Functions Identification and Submission Process*, June 2013.
- Continuity Guidance Circular 2 (CGC 2), *Continuity Guidance for Non-Federal Governments: Mission Essential Functions Identification Process*, October 2013.
- FEMA *National Terrorism Advisory System Agency Implementation Plan*, May 5, 2011.
- Homeland Security Council, *National Continuity Policy Implementation Plan*, August 2007.
- *National Response Framework*, January 2008.
- FEMA Region II – Caribbean Area Division (CAD), *Continuity of Operation Plan Caribbean Area Division*, November 2013
- *The Virgin Islands Territorial Emergency Operations Plan (TEOP)*, October 2010
- DHS Pandemic Workforce Protection Plan, Draft.
- FEMA Security Classification Guide, 100-1-1.

ANNEX A: VITEMA MISSION ESSENTIAL FUNCTIONS (MEFs) AND SUPPORTING COMPONENT MEFs ¹

A.1 INTRODUCTION

This Annex identifies VITEMA MEFs that support VITEMA's ability to support the Territory's overall mission to provide vital services, exercise civil authority, maintain the safety of the general public, and sustain the industrial/economic base during an emergency in support of the National Essential Functions (NEFs). VITEMA identified its MEFs based on the National Continuity Policy Implementation Plan, Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), Homeland Security Act of 2002, Virgin Islands Code, Title 23, the VITEMA Act (5233) of 1986, and the Emergency Management Act of 2009 (Act 7074).

IDENTIFICATION OF ESSENTIAL FUNCTIONS

VITEMA has completed the MEF process as identified in CGC 2 to identify those functions that VITEMA must continue during a continuity situation.

STATE, TERRITORIAL, TRIBAL ESSENTIAL FUNCTIONS

VITEMA's MEFs are based on its mission and role in support of the continued performance of territorial, or tribal essential functions (STTEFs). These STEFFs, as listed below, represent the overarching responsibilities of State, territorial, and tribal government leaders to ensure the well being of their communities.

¹ The MEFs and supporting component MEFs identified in this annex were approved at the time of publication. MEFs and supporting component MEFs are subject to change upon review. This annex will update as changes occur. A new annex, identified by date of update, will replace the current annex once updated.

Table A 1-1: State, Territorial, and Tribal Essential Functions

State, Territorial, Tribal Essential Functions (STTEFs)
STTEF 1: Maintain Continuity of Government. Focus: Ensure the continued functioning of critical government leadership elements, including: succession to key offices; organizational communications; leadership and management operations; situational awareness; personnel accountability; and functional and judicial organizations (as necessary). Each State, territory and tribe should identify the various subordinate mission essential functions necessary to accomplish this overarching mission. (This STTEF aligns with NEF 1)
STTEF 3: Reserved. STTEF 3 is not defined as there is no parallel to NEF 3: Employ the military, including implementing military operations to defend the Nation. While the States, territories, and tribes support this function, the Federal government is solely responsible for performing this function.
STTEF 5: Maintain Law and Order. Focus: Maintain civil order and public safety (protecting people and property, and the rule of law); ensuring basic civil rights, preventing crime, and protecting critical infrastructure. This involves State, territorial, and tribal governments and local law enforcement, and includes calling up of National Guard units to support these efforts. (This STTEF aligns with NEF 5)
STTEF 7: Maintain Economic Stability. Focus: Manage the overall economy of the State, territorial, or tribal governments. While the Federal government is responsible for protecting and stabilizing the National economy and regulating the currency, State, territorial, and tribal governments have a responsibility to manage their jurisdiction's finances and ensure solvency. During a crisis affecting the economy, maintaining confidence in economic and financial institutions is critical at every level of government. (This STTEF aligns with NEF 7)

VITEMA's MEFs and VITEMA supporting component MEFs, listed below in priority order, must continue throughout, or resume rapidly after, a disruption of normal activities.

A.2 VITEMA'S MISSION ESSENTIAL FUNCTIONS

1. Lead and operate the Territory 911 communication centers.
2. Lead Territory emergency response efforts during major disasters and emergencies.
3. Lead and coordinate Territory emergency recovery efforts following a disaster to ensure appropriate Federal assistance is quickly delivered to the impacted population and district to minimize suffering and disruption of services, and facilitate rapid return to normalcy.

A.3 OFFICE OF THE DIRECTOR

To support VITEMA's overall MEFs, the prioritized MEFs of the VITEMA Director are as follows:

1. Serve as Head of VITEMA: Oversee daily operations and set the overall Agency priorities to better enable VITEMA to serve the Territory.
2. Provide direction and support for all disaster-related activities.

A.4 DIRECTOR OF OPERATIONS DIVISION

To support VITEMA's overall MEFs, the Operations Division's MEFs are as follows:

A. Response

1. The National Watch Center: Provide and maintain 24/7 National situational awareness of potential, developing or ongoing situations which may require a Federal response; provide operational, reporting and planning functions at the onset of a National response until the NRCS is in place and assumes control.
2. The VITEMA Operations Center: Distribute warnings, alerts, notifications and bulletins; execute plans in support of COOP and COG.
3. Provide response to disasters, emergencies, and special events by maintaining a high level of readiness for deployment of tactical communications in support of emergency teams and other Response and Recovery elements.
4. Manage and coordinate response and support field-level response to disasters, emergencies, and special events by maintaining the optimal standards of readiness of emergency response teams as set forth by internal VITEMA policy directives.
5. Fusion Centers: Provide VITEMA leadership, organizational components, and regional activities critical threat-related and security information based on

monitoring and analysis of emerging, intelligence based, threat streams via classified and open-source systems. Prevent and deter acts of terrorism and criminal activity within the territory of the U.S. Virgin Islands, and to promote public safety through intelligence fusion and information sharing with all its law enforcement partners.

B. Recovery

1. Execute Emergency Support Function (ESF) 6 operations and administer essential aspects of VITEMA's Individual Assistance program, including the Emergency Food and Shelter Board.
2. Administer essential aspects of VITEMA's Public Assistance program following a disaster.
3. Execute National Disaster Recovery Framework (NDRF) function to coordinate Federal Disaster Recovery Coordinator and Recovery Support Function operations.

A.5 PREPAREDNESS DIVISION

To support VITEMA's overall MEFs, the Preparedness Division's MEFs are as follows:

1. Prepares the Territory's private sector, public sector, and non-governmental organization to protect lives and property from all hazards through planning, training, exercising, and educating.
2. Provides citizens with the tools to make informed decisions to respond to and recover from any hazard that may threaten their lives and property.

A.6 FINANCE /ADMINISTRATION DIVISION

To support VITEMA's overall MEFs, the Finance/Administration Division's MEFs are as follows:

1. Manage and monitor the human and financial resources of VITEMA.
2. Maintain internal tracking system to ensure timely processing of vendor payments.
3. Process all general, federal, and special fund vendor payments for the Agency
4. Process biweekly payroll through the STATS system.
5. Monitor budgetary funding ceilings.
6. Monitor expenditures for compliance with the Treasury Statement Agreement for Cash Management clearance requirements.

A.7 LOGISTICS DIVISION

To support VITEMA's overall MEFs, the Logistics Division's MEFs are as follows:

1. Serve as the primary logistics coordination and operational command and control for Agency support of domestic emergency operations and special events.
2. Develop and provide cohesive and synchronized logistics plans that detail Concept of Operations for Logistics Management and Resource Support to achieve short and long-term readiness requirements. Conduct planning for sustainment and future logistics operations and planning assessments and analysis in support of domestic emergencies and special events.
3. Manage inventories and provide distribution services to support the VITEMA territories in support of domestic emergency operations and special events.
4. Provide responsive and effective inventory management of disaster operations equipment and commodities.
5. Provide comprehensive logistics-related fiscal, personnel and administrative services and coordination to achieve optimum mission requirements and capabilities.

A.8 GRANTS/TERRITORIAL PUBLIC ASSISTANCE OFFICER

To support VITEMA's overall MEFs, the Grants/Territorial Public Assistance Officer's MEFs are as follows:

A. Grants Management Division

1. Oversee the monitoring and management of all Federal grants administered by VITEMA.
2. Assist in the implementation of systems and procedures to ensure proper management of Federal grants.
3. Second-level review and validation of all procurement and drawdown requests.
4. Assist with the preparation of all grant applications and budget modifications for submittal to the Federal grantor agency.
5. Act a liaison between the Federal grantor agency and VITEMA with matters pertaining to grants management.

B. Territorial Public Assistance Officer

1. Advises the GAR on all Public Assistance program matters, particularly those of a financial nature.
2. Manages the operations of the Public Assistance staff.
3. Ensure that the Public Assistance program is working to meet the needs of the sub-grantees.

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4. Ensure that the Public Assistance program is operating in compliance with laws, regulations, and practices.
5. Keep the sub-grantees informed and educated, and works with the sub-grantees to resolve problems.

ANNEX B: VITEMA COMPONENT ESSENTIAL SUPPORTING ACTIVITIES

B.1 INTRODUCTION

This Annex identifies VITEMA Component Essential Supporting Activities (ESAs) that support VITEMA's ability to provide vital services, exercise civil authority, maintain the safety of the general public, and sustain the industrial/economic base during an emergency in support of the NEFs.

B.2 9-1-1 EMERGENCY COMMUNICATIONS CENTER

- Dispatch Police, Fire, and Emergency Medical Service responders and when required, remain on the line providing immediate pre-arrival medical emergency assistance.
- Provide radio communications towers, improved radio and communication systems equipment for first responders.
- Enhance training and career paths for operators.
- Provide first responders, crisis counseling, customer service and other skills arrive.

B.3 EMERGENCY OPERATIONS CENTER

- Responsible for managing operations directed toward reducing hazards prior to, during, and after any emergency incident, including saving lives and property.
- Coordinates response and recovery, manages available resources, and orchestrates public assistance programs.

B.4 OFFICE OF HOMELAND SECURITY/FUSION CENTER

- Responsible for processing and disseminating intelligence data to all law enforcement entities that assist with surveillance of major crimes.
- Operate and maintain the necessary equipment to communicate to Police, Fire, EMS, Rescue, and all other governmental agencies both local and Federal.

B.5 ADMINISTRATION PERSONNEL

- Monitor revenues and expenditures to ensure that applicable statutory requirements are followed.
- Ensure proper recording and reporting of personnel time.
- Oversee all financial matters pertaining to vendor contracts.
- Coordination with management, Logistics, Preparedness, Operations and Grants Management units to ensure that operational records can be reconciled with financial documents.
- Maintains equipment inventory and provides custodial services to all divisions.

B.6 PURCHASING VENDOR PAYMENT

- Prepare and process purchase orders, requisitions, miscellaneous disbursement vouchers, government transportation requests, and related travel documents for the department.
- Reconcile ledgers with the Department of Finance's records; coordinates and compiles the Department's budget.
- Prepares bi-weekly time and attendance records for the Department.
- Sort and distribute payroll checks.

B.7 PLANNING

- TBD

B.8 TRAINING AND EXERCISES

- TBD

B.9 HAZARD MITIGATION

- Prepare and disseminate the TEOP and monitors its implementation.
- Identify sensitive areas in the community that may be susceptible to damage and recommends response priorities, including hazard mitigation projects, preparedness training exercises, community outreach, and other means to reduce loss of life and property.

B.10 PUBLIC ASSISTANCE

- Coordinate public assistance programs to engineer rapid restoration of normalcy
- Ensure that the Public Assistance program is working to meet the needs of the sub-grantees.

B.11 FEDERAL GRANTS

- Prepare budget forms and budget revisions.
- Provide pre-approval for expenditures that are allowable in support of approved projects / investment justifications.
- Verify accuracy of all internal procurement requests.
- Monitor and track grant-related expenditures.
- Prepare draw down requests.
- Prepare quarterly financial reports.
- Collect quarterly performance reports and verify their accuracy.
- Reconciliation of grant expenditures.
- Preparing adjustment vouchers for grant expenditures.
- Provide technical assistance regarding matters of grant funding.
- Assist in the preparation of grant applications.

B.12 COMMUNICATIONS

- Coordinate with telecommunications and information technology industries.
- Oversight of communications within the incident management and response structures.

B.13 ENERGY

- Energy infrastructure assessment, repair, and restoration.
- Energy industry utilities coordination.
- Energy Forecast.

B.14 INFORMATION TECHNOLOGY

- TBD

B.15 FACILITIES

- Maintain and demobilize all temporary facilities used in support of incidents.

B.16 PUBLIC INFORMATION OFFICE

- Coordinate all external public communications.

B.17 SPECIAL ASSISTANT

- TBD

B.18 GOVERNOR'S AUTHORIZED REPRESENTATIVE

- TBD

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ANNEX C: ORDERS OF SUCCESSION

C.1 INTRODUCTION

This annex lists the established procedures for designating the order of succession of officials to serve in an acting capacity in VITEMA. Pre-identifying an Order of Succession is critical to ensuring effective leadership during an emergency. In the event an incumbent is incapable or unavailable to fulfill essential duties, VITEMA has identified successors to ensure there is no lapse in essential decision making authority. VITEMA Orders of Succession down to the Deputy Director level are provided in this annex. VITEMA COOP Implementation Plan contains Orders of Succession and includes a method of notification. A copy of the Orders of Succession is included in the Essential Records section.

In the event VITEMA leadership becomes debilitated or incapable of performing their authorized legal duties, roles, and responsibilities, the Governor or designated representative will initiate a notification of the next successor in line. Designated successors receive annual refresher briefings pertaining to their responsibilities as successor. VITEMA updates and reviews the Orders of Succession in this plan annually during COOP Plan review/update.

VITEMA is responsible for establishing, promulgating, and maintaining Orders of Succession for the key positions in the COOP Plans. The Orders of Succession ensure continuity by identifying the individuals, by position, who VITEMA has authorized to act for VITEMA officials in case these officials are unavailable. VITEMA will:

- A. Establish an Order of Succession for the lead position within the component;
- B. Establish Orders of Succession for other key leadership positions;
- C. Identify any limitation of authority based on Delegations of Authority to other individuals;
- D. Describe the Orders of Succession by positions or titles rather than by the names of individuals;
- E. Include the Orders of Succession in the essential records of the organization;
- F. Include at least three successors in each Order of Succession;
- G. Include at least one Devolution counterpart in Orders of Succession;
- H. Revise Orders of Succession as necessary and distribute revised copies promptly as changes occur;
- I. Establish the rules and procedures for the designated personnel to follow when addressing the issues of succession to key positions during an emergency;
- J. Include in the succession procedures: 1) The conditions under which succession will take place; 2) The method of notification; and 3) The method of

relief from authority and any temporal, geographical, or organizational limitations of authorities;

- K. Provide briefings to designated successors to the position of organization head, when named, on their responsibilities as successors and on any provision for their relocation; and
- L. Conduct annual refresher briefings for the designated successors.

C.2 APPLICABILITY

The provisions contained within this annex are applicable to all.

C.3 POLICY

- A. Succession to the Position of Director, VITEMA: In the event of the death, resignation, or otherwise inability to perform the functions and duties of the position of VITEMA Director, pursuant to the Organic Act of 1954, the Assistant Director, as designated first assistant, if available, shall perform the functions and duties of the office of vacant Director temporarily in an acting capacity immediately and automatically upon the occurrence of the vacancy.
- B. Succession to Other VITEMA Positions: Division Directors will designate, if available, at least three successors to his/her position from members of his/her staff. These persons will have the authority to exercise the power and duties of the office in the event of the unavailability of those above them on the list of designees. Officials so designated as successors to these positions are not thereby successors to the position of the Director. Succession orders for VITEMA are provided in Table C-1. Due to the complex nature of VITEMA operations, questions on any legal issues related to rules and procedures that delegated officials must follow regarding succession, including the conditions under which succession will take place; method of notification; and, any temporal, geographical, or organizational limitations of authorities, must be addressed to the VITEMA Office of the Chief Counsel.

C.4 PROCEDURES

The VITEMA Director will operate from a location that in the judgment of the VITEMA Director will best serve VITEMA. If the operability of any other point of command is in the judgment of the VITEMA Director sufficiently superior, then the VITEMA Director may move to that place or provide direction to the successor who is at that location. Those named as successors to the position of VITEMA Director are not successors to any position other than the Director.

For purposes of this paragraph, the term “successor” as it relates to the Director, may mean a successor appointed by an official listed as a successor pursuant to Table C-1. An official serving in an acting position may not serve in the position of Director.

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Successors will exercise authorities and functions only until superseded by an official higher on the list or by a successor specifically designated by proper authority to assume direction.

Successors will instruct those designated under this instruction to exercise the powers and duties of the office from time to time in the emergency duties they are expected to perform if succession occurs.

SUBMISSION OF COMPONENT SUCCESSION LISTS

ATTACHMENT A:

LINE OF SUCCESSION

VITEMA

The passing of authority under this line of succession is intended to be fluid in order to maintain continuous command and control within the Territory. The authority passes to the next in succession when the person holding the authority is unavailable due to leave, illness, or cannot be contacted. The authority passes fluidly and may pass only for a brief period of time. For instance, if the current authority holder becomes unavailable due to being on a 3 hour flight, the authority passes during the pendency of unavailability and returns once a communication link is restored. Command decisions needed during the period of unavailability are to be made by the next available person in the line of succession.

Office

by Position

Director

Assistance Director

Deputy Director of Operations

Deputy Director of Preparedness

Deputy Director Administration and Finance

Deputy Director of Logistics

Deputy Director of Grants/TPAO

Line of Succession

Table C-1: VITEMA Orders of Succession List
Director of VITEMA

Position	Designated Successors	
Director, VITEMA*	1. Assistant Director	S
	2. Deputy Director of Operations	S
	3. Deputy Director of Preparedness	N
	4. Deputy Director of Administration /Finance	C
	5. Deputy Director of Logistics	C
	6. Deputy Director of Grants/TPAO	C

Assistance Director, VITEMA

Position	Designated Successors	
Assistance Director, VITEMA*	1. Deputy Director of Operations	S
	2. Deputy Director of Preparedness	C
	3. Deputy Director of Administration /Finance	C
	4. Deputy Director of Logistics	C
	5. Deputy Director of Grants/TPAO	P

Operations Division

Position	Designated Successors	
Deputy Director of Operations	1.	P
	2.	P
	3.	P

Preparedness Division

Position	Designated Successors	
Deputy Director of Preparedness	1.	P
	2.	C
	3.	C

Finance/Administration Division

Position	Designated Successors	
Deputy Director of Finance/Administration	1.	C
	2.	C
	3.	C

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Logistics Division

Position	Designated Successors	
	1.	C
	2.	C
	3.	C

Grants/TPAO

Position	Designated Successors	
	1.	C
	2.	C
	3.	C

Legend

Career	C
Non-Career in the Senior Executive Service or Schedule C	N
Presidential Appointee	P
Presidential Appointee with Senate Confirmation	S
Subject to the Federal Vacancy Reform Act of 1988 (VRA)	*

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ANNEX D: DELEGATIONS OF AUTHORITY

D.1 INTRODUCTION

Delegations of Authority specify who is authorized to act on behalf of the Agency head or other officials for specified purposes. VITEMA components have identified their Delegations of Authority in accordance with the guidance below.

Components may include Delegations of Authority for VITEMA components in their COOP Implementation Plans or identify them as an essential record in the essential record package. Components must direct legal issues or other questions relating to the Delegations of Authority to the VITEMA Office of the Chief Counsel. At a minimum, VITEMA components will include the following in their Delegations of Authority:

- A. The legal authority for officials, including those below Agency head, to make key policy decisions during emergency operations;
- B. The programs and administrative authorities required for effective MEF operations at all organizational levels;
- C. The necessary authorities where MEFs may be involved, include:
 - 1. Delineating the limits of authority and accountability;
 - 2. A statement that explicitly outlines the authority of an official to whom authority has been delegated to exercise Agency direction (including any exceptions) and their authority to re-delegate functions and activities as appropriate; and
 - 3. A list of circumstances that would implement the delegated authorities, and the justifications for the delegated authorities to terminate.
 - 4. The requirement that officials who may be expected to assume authorities in an emergency receive annual training on how to carry out their emergency duties.

VITEMA Delegations of Authority are in compliance with the guidance in Title 44, CFR Part 2.

D.2 DELEGATION AUTHORITY FOR THE VITEMA DIRECTOR

Delegations of Authority for Named Positions, the following officials, in the order listed in Table D-1 below, are delegated authority to exercise the powers and perform the duties of the Director of VITEMA, in case of absence, inability to perform, or vacancy of the office and until that condition ceases.

Table D-1: VITEMA Orders of Succession and Delegations of Authority

Designated Successors
Assistant Director
Deputy Director of Operations
Deputy Director Administration & Finance
Deputy Director Preparedness
Deputy Director of Logistics
Deputy Director of Grants/TPAO

If a Governor appointed position is vacant, the Assistant Director shall act as the incumbent until a successor is appointed. The individual serving in the position identified as the first to succeed is designated the "First Assistant". If the First Assistant position is vacant, the next designated official in the order of succession may exercise all of the powers, duties, authorities, rights, and functions authorized by law to be exercised by the incumbent, but may not perform any function or duty required by statute or Executive Order to be performed exclusively by the office holder.

All official positions in the succession order provided may exercise all the powers, duties, authorities, rights, and functions authorized to be performed by the incumbent, to the extent not otherwise limited by law.

Only officials specifically designated in the order of succession for each of the named positions in Table D-1 are eligible. Unless formally appointed by the Director, persons appointed on an acting basis, or on some other temporary basis, are ineligible to serve as a successor; therefore, the order of succession would fall to the next designated official in the approved order of succession.

The prohibition of any re-delegation of powers, authorities, functions, and duties contained in the Agency Delegations, Instructions, Manuals, or similar internal documents, is not applicable to restrict the authority of any individual who is exercising the authority of a vacant position under this delegation. Such individual shall, however, be bound by such Agency Delegations, Instructions, Manuals, or similar internal documents, and shall not further re-delegate powers to any individual.

Nothing in this delegation is intended to limit the discretion of the Director to depart from this delegation.

Table D-1 outlines the Delegations of Authority; it does not present what has already been signed.

ANNEX E: ESSENTIAL RECORDS MANAGEMENT

E.1 INTRODUCTION

The Records Management section has responsibility and oversight for processing and approval of Personnel Actions within the ERP HR Module and maintenance of all current employee and retiree Official Personnel Records (OPR). This section provides overall program responsibility guidance and oversight for protecting essential records needed to support VITEMA essential functions under any potential and/or actual emergency. This guidance includes specifications for program purpose and the scope and assignment of roles and responsibilities.

E.2 ESSENTIAL RECORDS PROTECTION

The Records Management section responsibilities include the protection and ready availability of the agency's critical information systems and electronic records needed to continue performing essential functions across the all-hazards spectrum. VITEMA Essential Records, which include digital files and databases as well as records in paper or other formats, include the systems listed in the following tables and the VITEMA Enterprise Network (FEN) essential for coordinating VITEMA's nationwide activities. VITEMA also uses numerous Commercial-Off-The-Shelf software packages to carry out mission-critical functions.

E.3 ESSENTIAL RECORDS/SYSTEMS

To ensure continuous access to these essential records, which include digital files and databases as well as records in paper or other formats, VITEMA will utilize alternate data processing sites as backups for VITEMA key data systems and databases, specifically the identified critical IT systems. The backups will allow the designated manager to restore the critical systems at alternate sites as the primary data systems in the event of a system interruption. The VITEMA COOP Plan designates the following VITEMA systems, listed in Tables E-1, E-2, and E-3, as agency critical. They are categorized into four reconstitution priorities: (1) network; (2) alerts and notification; (3) VITEMA mission-critical applications; and; (4) critical support applications:

Table E-1: Critical VITEMA Systems

VITEMA Critical Systems	Priority*
VI – ALERT EMERGENCY ALERT SYSTEM (EAS)	2
Authentication and Provisioning Services (APS)	1
FEMA Enterprise Electronic Messaging Services	1
FEMA WAN / FEMA LAN	1

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VITEMA Critical Systems	Priority*
IFMIS / WEBIFMIS	1
FEMA.gov	2
IPAWS-OPEN	2
SAVER ²	2
Readiness Reporting System (RRS)	2
Automated Acquisition Management System (AAMS)/ProTRAC	3
Automated Construction Estimation (ACE)	3
Document Management and Records Tracking System (DMART)	3
Enterprise Coordination and Approval Process System (ECAPS)	3
Emergency Management Mission Integrated Environment (EMMIE)	3
Emergency Support	3
Flood Map	3
Intelligent Roads and Rail Information System (IRRIS)	3
Logistics Inventory Management System (LIMS)	3
Logistics Supply Chain Management System (LSCMS)	3
Map Service Center	3
Map Service Center Online Digital Distribution Center	3
Mobility Environment for FEMA (iFEMA) General Support System	3
NEMIS-IA	3
Network Inventory and Optimization Solution (NiOS)	3
Payment and Reporting System(PARS)	3
ACCPAC	4
Assistance to Firefighter's Grant (AFG)	4
Hazard Mitigation Grant Program (HMGP)	4
Mapping Information Platform - Data Center 2	4

VITEMA Critical Systems	Priority*
Mastermind Automated System (MAS) - Unclassified	4
Mastermind Automated System (MAS) - Classified	4
MT-eGrants	4
National Flood Insurance Program (NFIP)	4
ND Grants	4
Velocity Security Management System (Hirsch) - Unclassified	4
Note: FIMA has received DHS permission to combine Flood Map Modernization and Map Service Center initiatives.	

*Reconstitution priorities: (1) network; (2) alerts and notification; (3) VITEMA mission critical applications; and (4) critical support applications.

Table E-2: Critical Non-VITEMA Systems

Non - VITEMA Critical Systems	Priority*
E-Mail at Data Center 2	1
FedTraveler and Its successor	4
Time and Attendance	4

*Reconstitution priorities: (1) network; (2) alerts and notification; (3) VITEMA mission critical applications; and (4) critical support applications.

Table E-3: Critical Physical Security Systems

Critical Physical Security Systems	Priority*
Mastermind Automated System – Classified	4
Mastermind Automated System – Unclassified	4
Velocity Security Management System – Classified	4
Velocity Security Management System – Unclassified	4

*Reconstitution priorities: (1) network; (2) alerts and notification; (3) VITEMA mission critical applications; and (4) critical support applications.

E.4 ESSENTIAL RECORDS/FILES AND DATABASES

The essential files, records, and databases supported by these systems include:

A. Emergency Operating Records

VITEMA essential records and databases essential to the continued functioning or reconstitution of the Agency during and after an emergency, including: emergency plans and directives, Orders of Succession, Delegations of Authority, staffing assignments, and related policy or procedural records that provide guidance and information resources necessary for conducting operations during any emergency, and for resuming formal operations at its conclusion.

B. Legal and Financial Rights Records

VITEMA's essential records and databases are critical when carrying out VITEMA's essential legal and financial functions and activities, and in protecting the legal and financial rights of individuals directly affected by Agency activities. This includes records having such value that their loss would significantly impair the conduct of VITEMA essential functions or become a detriment to the legal or financial rights or entitlements of the organization or of affected individuals. Examples of these records include accounts receivable, contracting and acquisition files, official personnel files, Social Security information, payroll, retirement, insurance, property management, and inventory records.

The VITEMA Component COOP Plans will account for the identification and protection of essential records, systems, and data management software and equipment, to include classified or other sensitive data necessary to perform essential functions and to reconstitute normal Agency operations after the emergency. VITEMA components pre-position and update on a regular basis all duplicate records, back-up electronic files, and other hard copy documents as required. Each component will also include consumable office supplies and

other materials needed to perform the essential functions in their VITEMA Component COOP Plans.

E.5 ESSENTIAL RECORDS AND DATABASE RISK ASSESSMENT

The VITEMA Records Management Division, also has responsibility for Essential Records. The VITEMA Records Manager and component representatives are responsible for ensuring essential records and documents are identified and maintained regularly, accurately and safely. This includes essential records, which may include digital files and databases as well as records in paper or other formats and database risk assessment of retention in current/alternate locations, storage media, and difficulty of reconstituting the records if destroyed. They also ensure organizational Essential Records Plan Packets are developed and maintained with required information.

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ANNEX F: CONTINUITY FACILITIES

F.1 VITEMA EMERGENCY OPERATIONS CENTER (EOC)

The VITEMA primary continuity of operations facility is located at 8221 Estate Nisky, St. Thomas, VI 00803. Listed below are specific facility information and supporting information pertinent to VITEMA ERG members involved in VITEMA's continuity program:

St. Thomas Office:
8221 Estate Nisky
St. Thomas, VI 00803
Tel: (340) 774-2244
Fax: (340) 715-6847

St. Croix Office:
2164 King Cross St.
Christiansted, VI 00820-4840
Tel: (340) 773-2244
Fax: (340) 778-8980

St. John Office:
6 Susannaberg
St. John, VI 00830
Tel: (340) 776-6444
Fax: (340) 714-4470

F.2 LOGISTICS SUPPORT

During an emergency, EOC will provide responsive support and assistance to VITEMA components temporarily relocated within the Territory. Through the duration of the emergency, the Director or desinee will make provisions to ensure the ability of VITEMA personnel to continue performance of their essential functions at the ERS, and to provide for the safety and well-being of all concerned.

The COOP Site Support Plan must include relevant factors affecting continuity implementation, which generally addresses those actions or arrangements that must be handled prior to or shortly after the VITEMA COOP Plan is activated.

The factors involving specific elements of the continuity facilities include:

- A. In-Processing: VITEMA security will maintain a current ERG roster at all times, as provided by the VITEMA COOP Support Team (CST). ERG members will report to the lobby of building for check-in and in-processing.
- B. Access to site: Guidance will be provided by the Logistic Division or designee.
- C. Transportation to the ERS: ERG members will relocate to continuity facilities using privately owned vehicles (POVs), during COOP events that occur after normal working hours. ERG members must report to the MWEOC within 12 hours after the COOP notification.
- D. Transportation and Parking at site: In a COOP activation, VITEMA may utilize a parking team to facilitate safe movement around the facility. Please follow the parking directions, if provided. Otherwise parking will be on a first come, first served basis, in accordance with existing policy. VITEMA will provide shuttle or taxi service from all parking areas to the COOP buildings.
- E. Food Services: To accommodate the daily presence of ERG members at the ERS, VITEMA staff will coordinate, as needed, augmentation of the food services provided by dining facilities. With prior notification, arrangements will be made to provide an evening meal and limited food services at night for shift workers, within the respective per diem rates. Personnel staying off-site may purchase meals in the cafeteria à la carte or at restaurants near the site.
- F. COOP Facilities: The VITEMA CST assists ERG members upon arrival and ensures an orderly transition of office space and equipment for COOP operations.
- G. Operating Hours: The VITEMA Director will determine daily working hours for the ERG at the MWEOC depending on the nature of the emergency situation. VITEMA support procedures and resources will adapt to the work schedules established for ERG members in order to provide adequate support for the ERG members while on-site.

F.3 TEMPORARY DUTY ALLOWANCES

Following official execution of the VITEMA COOP Plan, VITEMA employees who are designated ERG members and who are also directed to temporarily relocate to the ERS are eligible for travel entitlements. These entitlements include:

- A. Local Travel: Reimbursement for employees who choose to commute daily includes mileage between the home.
- B. Temporary Duty Travel: Temporary duty of two or more days merits consideration for reimbursement of lodging and Meals and Incidental Expenses (M&IE) as described below:
 - On-site housing at the ERS will be used, if available. Reimbursement includes mileage and housing costs, plus the current daily rate for M&IE;

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- If on-site housing is not available, each component may authorize per diem for off-site lodging and M&IE. Reimbursement includes mileage plus lodging and M&IE at the current locality rate.

Note: The first and last day of travel is calculated at 75% of the daily rate, and each full day in between is calculated at 100%.

Each component should prepare a travel authorization document for each ERG member as soon as possible upon arrival at the ERS. Each component will pay all costs associated with travel, lodging, and M&IE for their ERG members.

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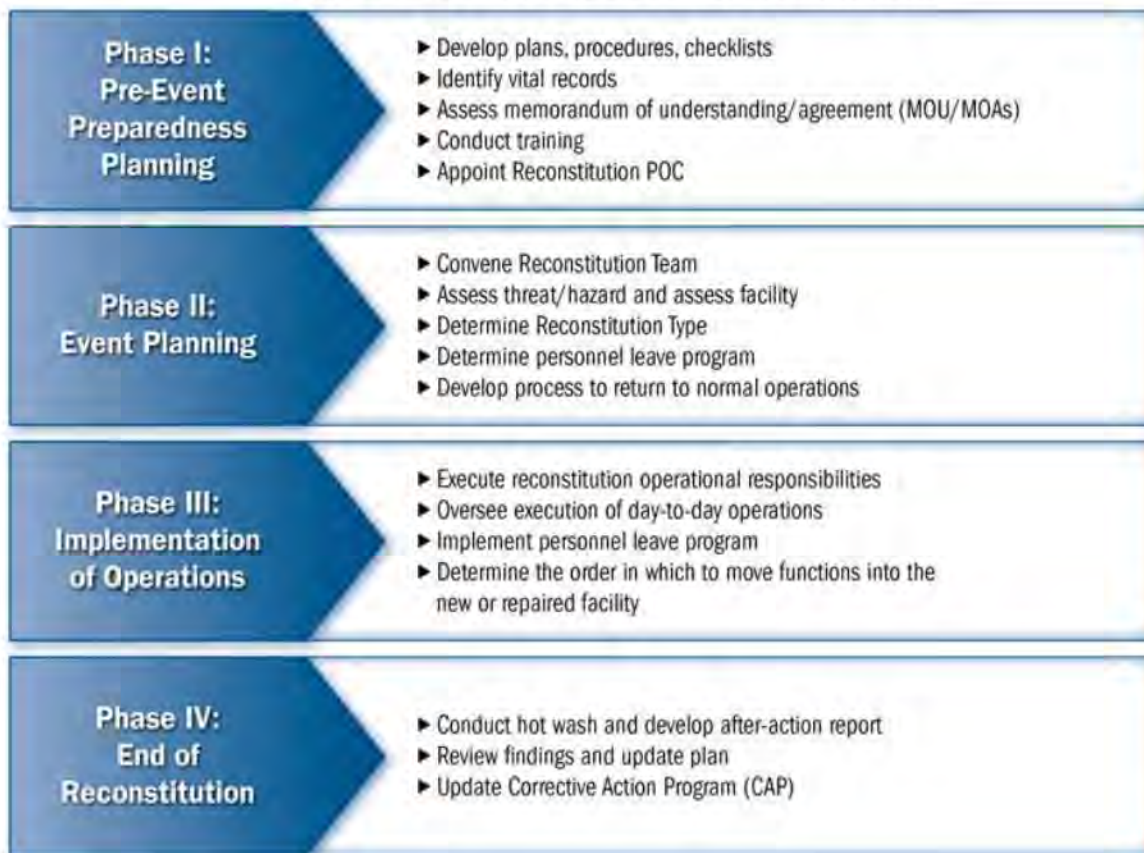
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ANNEX G: RECONSTITUTION OPERATING PROCEDURES

G.1 INTRODUCTION

The VITEMA Reconstitution Plan is implemented based on VITEMA COOP Plan activation and guidance and direction from Agency senior leadership or activation of the VITEMA Devolution Plan. The Reconstitution Manager will initiate and coordinate operations to salvage, restore, and recover VITEMA facilities. The VITEMA Reconstitution Plan, in conjunction with the VITEMA Continuity of Operations Plan and VITEMA Devolution Plan, ensures the Agency can resume normal operations through an orderly transition to VITEMA or a new facility once the threat or disruption has passed. Reconstitution is implemented in four specific phases, as illustrated in Figure G-1.

Figure G-1: Four Phases of Reconstitution



G.2 RECONSTITUTION PHASE I: PRE-EVENT PREPAREDNESS PLANNING

The primary focus during this phase is to ensure the readiness of VITEMA staff, the Reconstitution POCs, and others to support, conduct, and implement reconstitution operations and post-reconstitution operations. Key activities during this phase will include developing planning and operational materials, establishing

stakeholder relationships, entering into partnering agreements, and conducting training and exercises.

The planning and preparedness activities conducted during Phase I ensure that the VITEMA senior leadership, staff, Emergency Relocation Group (ERG), Devolution Emergency Response Group (DERG), and other supporting entities are familiar with and capable of supporting reconstitution Phases II through IV. In general, preparedness activities and actions performed during Phase I will be the same regardless of the reconstitution event. For example, in all instances, plans and procedures will need to be developed, staffed, and trained. Phases I responsibilities include, but are not limited to the following:

- Appoint Reconstitution POC.
- Develop Reconstitution plans, procedures, processes, and checklists.
- Develop telework plans and procedures, in coordination with Continuity planners and the Telework Managing Officer.
- Develop checklists and key personnel contact lists.
- Develop essential records list.
- Develop Reconstitution packet.
- Identify the Reconstitution Manager and potential Reconstitution Team members.
- Identify, train, and exercise building damage assessment and recovery team.
- Establish and enter into memorandums of understanding/memorandums of agreement (MOU/MOA), or assess MOU/MOAs, if existing.
- Conduct training and exercises for Continuity/Reconstitution personnel.

G.3 RECONSTITUTION PHASE II: EVENT PLANNING

In Phase II, the event has occurred and assessment of the threat and facilities begin. Reconstitution operations begin when the VITEMA Director or designee, ascertains that the emergency situation has ended and is unlikely to reoccur. The Reconstitution Manager, in concert with the Reconstitution POCs, leads the reconstitution effort in accordance with the VITEMA Reconstitution Plan. Key activities performed during Phase II include, but are not limited to the following:

- Key activities performed during Phase II include, but not limited to:
- Convene the Reconstitution Team.
- Assess threats and hazards.
- Evaluate safety and habitability of primary operating facility.
- Determine the type of Reconstitution required.
- Determine personnel leave program requirements and needs.
- Develop processes to return to normal operations.
- Recover salvageable items and security equipment (i.e., classified materials, communications security equipment).
- Conduct system and communications checks.

- Conduct facility safety inspection of primary operating facility, temporary operating facility, or new/temporary operating facility.
- Coordinate and collaborate with senior leadership and key stakeholders.
- Maintain communications with non-ERG staff.

G.4 RECONSTITUTION PHASE III: IMPLEMENTATION OF OPERATIONS

VITEMA implements reconstitution operations after the continuity or devolution event is over. The focus during Phase III is to resume VITEMA normal day-to-day operations and transfer functions, personnel, equipment, essential records, etc. from the continuity facility or devolution site back to the normal operating facility, a temporary operating facility, or a new permanent operating facility. Key activities performed during Phase II include, but are not limited to the following:

- Execute Reconstitution operational responsibilities to include repairing the primary operating facility or identifying and setting up a new temporary or permanent primary operating facility.
- Oversee execution of day-to-day operations.
- Implement personnel leave program.
- Determine the order in which to move functions into the new or repaired facility.
- Oversee the move to the repaired primary operating facility or new temporary or permanent primary operating facility.

G.5 RECONSTITUTION PHASE IV: END OF RECONSTITUTION

This phase consists of reviewing and evaluating the overall reconstitution process by conducting an after-action conference for the purpose of evaluating the effectiveness of the reconstitution policy, plans, processes, and procedures. Through this review, VITEMA will identify lessons learned, best practices, and improvement needs. This includes developing an After-Action Report/Improvement Plan (AAR/IP) for the purposes of summarizing the reconstitution event, identifying opportunities to improve and enhance the organization's continuity program, plans, and capabilities; and developing an approach to implementing improvements. Key activities performed during Phase IV include, but are not limited to the following:

- Implement phase down plan.
- Conduct normal operations.
- Conduct post-Reconstitution hot wash.
- Document and evaluate review findings.
- Develop AAR/IP; update CAP.
- Update/revise Reconstitution Plan.
- Review findings.
- Update plans.

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ANNEX H: CONTINUITY COMMUNICATIONS

H.1. INTRODUCTION

Communications are essential to any emergency response operation. Communications are needed to keep supervisors informed of activities, to keep families and off-duty employees informed about what is happening, to coordinate response actions, and to maintain contact with other Agencies and the public.

Communications can be divided into three categories:

- A. Alternate electronic communication (Internet, E-mail, Blackberry);
- B. Telephone-based communication (fax, landline phone, cell); and
- C. Non-telephonic verbal communication (satellite phone, two-way radio).

This annex describes communication procedures that will be used in the event VITEMA is required to relocate to the ERS to maintain continuity of operations. VITEMA Director or desinee will work with the ERS and each VITEMA component to assist with the provision of available and redundant critical communications systems to support connectivity to internal organizations, other Agencies, critical customers, and the public.

H.2. CAPABILITY REQUIREMENTS

Each VITEMA component is responsible for ensuring element specific continuity communications requirements are identified and resourced.

VITEMA Continuity communications will provide:

- A. Capabilities commensurate with essential function and activity requirements (refer to the VITEMA component COOP Implementation Plans);
- B. Ability to initiate and sustain leadership and essential functions and activities;
- C. Ability to communicate with COOP contingency staffs, management, and other organizational components with minimal delay;
- D. Ability to communicate with other Agencies and emergency personnel under austere conditions with minimal delay;
- E. Access to other data and systems necessary to conduct essential activities and functions;
- F. Each Individual component must detail all telecommunications and information support requirements in their individual COOP Implementation Plan; and
- G. All VITEMA components must maintain and update all necessary files, documents, computer software, and databases required to carry out essential functions.

H.3. CONTINGENCY PLANNING

- A. VITEMA components must plan for all possible contingencies from a temporary or short-term disruption to a full communications failure. Their plans must consider the everyday staff functions and the communications, both secure and non-secure voice and data, used to support them;
- B. VITEMA components must consider the impact on their activities if communications are inoperable;
- C. VITEMA components must prioritize all office communications. Identify which communication systems to restore first during an emergency;
- D. VITEMA components must determine backup communications for each of their functions. Options can include messengers, laptop computers, cell telephones, Blackberries, pagers, facsimile machines, or two-way radios; and
- E. VITEMA components must identify the secure communications systems needed to perform identified essential functions. These systems include secure voice, file transfer, secure data, and facsimile equipment.

H.4. GENERAL INFORMATION

- A. While at the ERS, ERG members entering restricted-entry rooms may not carry any communications devices into those areas. Blackberries and cell telephones must remain in non-restricted areas;
- B. After reporting to the continuity facilities, ERG members must change their voice mail greeting to inform callers of their new telephone number at the site;
- C. As the situation permits, ERG members at the ERS will notify family members of their new telephone number to ensure their family can contact them in event of an emergency at home; and
- D. The VITEMA COOP Support Team will keep a copy of the most current COOP Communications Plan (CCP) at the ERS.

Provided in Table H-1 is a list of key telephone numbers for VITEMA emergency relocation sites, and to the Regional Office/CAD.

Table H-1: Emergency Relocation Site Telephone Numbers

Emergency Relocation Site Telephone Numbers	
VITEMA	
<ul style="list-style-type: none"> ▪ All emergencies, ext. 911 from a land line ▪ Security, ▪ Fire/Emergency Medical Technicians/Ambulance, ext. 911 ▪ Medical, ▪ Facilities Maintenance, ▪ VITEMA Emergency Operations Center; ▪ IT Help Desk, 	
Regional Office/CAD	
<ul style="list-style-type: none"> ▪ FEMA Region II – New York, NY – (212) 680-3609 ▪ FEMA Region II – CAD, Hato Rey, PR – (787) 296-3500 	

VITEMA is responsible for publishing and maintaining the VITEMA COOP Phonebook for the ERS. The VITEMA COOP Support Team will distribute the phone book to COOP POCs, who will in turn distribute the phonebook to their personnel. Provided in Table H-2 is a list of primary contact numbers for VITEMA organizations.

Table H-2: Contact Numbers

VITEMA Components	Phone Number

VITEMA satisfies requirements to provide assured and priority access to communications resources, including the Government Emergency Telephone

Service, Wireless Priority Service, and Telecommunications Service Priority. The VITEMA Headquarters point-of-contact for these services is the Office of the Chief Information Officer, Telecommunications Services Center.

VITEMA continuity of operations is dependent upon the availability and redundancy of critical communications systems to support connectivity to internal organizations, other agencies, critical customers, and the public. VITEMA has identified the communications systems required at the alternate. Redundant communication systems will be available to support continuity of operations requirements within the time frame identified by the current COGCON condition, but not later than 12-hours of COOP activation, and throughout continuity operational activities.

Each VITEMA component has identified continuity communications and key internal/external contacts in their respective COOP Implementation Plan.

H.5. VITEMA CONTINUITY COMMUNICATIONS

VITEMA's Continuity Communications systems are based on the following systems, assumptions, plans, and procedures:

- A. Non-secure electronic communications systems capable of establishing voice, file transfer, and facsimile connectivity with other locations (i.e. telephone/facsimile lines, High Frequency (HF)/Automatic Link Establishment (ALE) radios, Ultra High Frequency radios, land mobile radio, specialized mobile radio, cell phone capabilities);
- B. Secure electronic communications systems capable of establishing secure voice, secure file transfer, and secure facsimile connectivity (phone/fax lines, STE, HF and HF-ALE radios that can be encrypted for secure use);
- C. Communications plans and procedures that include detailed operations and maintenance procedures for mission essential communications equipment;
- D. Administrative procedures that will provide for an accurate record of activity and maintenance logs throughout any contingency; and
- E. Established in-place communications, transmission, security practices and emergency procedures.

H.6. TELECOMMUNICATIONS AND INFORMATION SYSTEMS SUPPORT

In general, the telecommunications and information systems support provided at VITEMA is also available at the continuity buildings. At a minimum, all systems will meet VITEMA baseline software requirements. It is imperative that VITEMA components ensure unique or critical information system requirements are considered in planning and identified as capabilities to be provided by support organizations, as appropriate.

ANNEX I: HUMAN RESOURCES

I.1 INTRODUCTION

Proper management of Human Resources is a critical element of a viable VITEMA Continuity of Operations program. To support VITEMA's continuity program, all VITEMA components will review and update their Human Resources information and programs, as appropriate, including procedures, guides, and resources to ensure policies are current and relevant to the VITEMA COOP Plan and Program. Human Resources policies, to include staffing, absences, leave, reimbursement and hiring will be followed in accordance with USVI Division of Personnel who serves the public and government agencies by continually improving the quality of its service, effectively and efficiently performing in a manner justifying the highest degree of public confidence in its conduct; maintain the appropriate roster of employees in government service as it relates to the various programs under the Division of Personnel's prescribed policies, rules and regulations and conduct inquiries as needed for the proper administration of the Virgin Islands Code Title 3, Chapter 25.

I.2 RESPONSIBILITIES DURING CONTINUITY ACTIVATIONS

VITEMA is responsible for developing, updating, and implementing comprehensive plans that take into account and respond to the threats its employees are most likely to face during continuity of operations and other emergencies. These plans interact with and depend upon Human Resources management. VITEMA managers and ERG members must be familiar with the many Human Resources resources and flexibilities that exist to assist managers and employees in a continuity activation, during implementation of the Occupant Emergency Plan (OEP), or in the case of dismissals or closures that would prevent VITEMA ERG and non-ERG personnel from reporting to work. All VITEMA elements will develop supporting programs within their respective organizations to support the guidance and procedures outlined in the VITEMA COOP Plan.

I.3 MANAGER RESPONSIBILITIES

VITEMA managers are responsible for communicating information and instructions to their employees during COOP operations. Managers must:

- A. Understand the agency's emergency plans, (continuity plans, pandemic plans, etc.) and management roles in executing the plan;
- B. Implement telework to the greatest extent possible so systems are in place to support successful telework in an emergency;
- C. Maintain awareness of available Human Resources tools, flexibilities, and strategies;
- D. Review regularly and update Human Resources information and resources to assure that the Agency's policies remain current and relevant. This includes

Human Resources procedures, guidelines and resources to ensure policies are current and relevant to the VITEMA COOP Plan and Program;

- E. Conduct regular exercises and simulations within their office;
- F. Ensure ERG and non-ERG members have a clear understanding of what they are to do in an emergency;
- G. Ensure ERG and non-ERG members develop a Family Support Plan. To develop a Family Support Plan, use the templates available at www.ready.gov. This site includes a "Get Ready Now" pamphlet which explains the importance of planning and provides a template that can be used to develop family specific plans;
- H. Maintain specific protocols for designating and activating employees disabilities with their office; and
- I. Develop, review and update emergency guides as needed.

Managers must establish internal communication protocols within their offices that:

- A. Establish and disseminate procedures annually to employees for dismissal or closure;
- B. Notify personnel when they have been designated as ERG members and inform them of their emergency employee responsibilities (written notification and acknowledgement is required);
- C. Inform non-ERG members when work must be performed at the regular worksite or the appropriate alternatives during COOP operations;
- D. Provide ERG and non-ERG members with instructions during emergency operations that clarify where they are to report for work;
- E. Determine when telework is appropriate for emergency situations;
- F. Allow personnel who might telework in case of an emergency to telework regularly to ensure functionality;
- G. Inform employees that if they are required to report for work and are not granted an excused absence, they will be charged as absent without leave and may be disciplined if they do not report to work; and

I.4 DESIGNATING "EMERGENCY EMPLOYEES" AND "MISSION-CRITICAL" EMERGENCY EMPLOYEES

VITEMA components will designate emergency employees who are critical to VITEMA operations during dismissal or closure situations. Deputy Directors have the discretion to identify and designate those employees necessary to continue office operations in any emergency situation. Directors will make these determinations based on their offices unique mission requirements and/or circumstances. The designation of emergency employees may vary according to the particular nature of the emergency. These designations must be part of their

organization's emergency response/COOP plans and be communicated to emergency employees, so that they can be prepared to support and sustain the Agency's operations in an emergency.

VITEMA ERG members are not considered members of an emergency team. However, for COOP purposes, VITEMA ERG members are designated as Emergency Employees. ERG members are "mission-critical" emergency employees who are expected to comply with Alert and Notification instructions during COOP operations. ERG members may be required to deploy to and work at the VITEMA ERS for up to 30 days or until VITEMA resumes normal operations.

I.5 INSTRUCTIONS FOR NON-ERG PERSONNEL DURING COOP OPERATIONS

Non-ERG members will receive instructions from Human Resources and their VITEMA component senior leadership on alternate work locations and telework accommodations, as appropriate, upon notification of COOP activation.

During COOP Operations, non-ERG personnel must prepare for notifications to report to work at their normal worksite or at alternative worksites if the emergency continues. Non-ERG personnel will also receive instructions from VITEMA component senior leadership on how, and the extent to which, employees are expected to remain in contact during any closure situation.

In the event an emergency prevents access to VITEMA, non-ERG employees may receive instructions from VITEMA component senior leadership not to report for work. If an employee is prevented from working because he or she has been instructed by his or her agency head or other authorized official not to report for work, the employee normally will be excused from work without loss of pay or charge to his or her leave.

I.6 TELEWORK EMPLOYEES

VITEMA recognizes that employees may telework from home or from an alternative worksite are an invaluable resource during an emergency. Any requirement for a telework employee to continue to work if the Agency closes on the employee's telework day or on any regularly scheduled workdays must be included in the employee's formal or informal telework agreement. On a case-by-case basis, VITEMA component managers may excuse a telework employee from duty during an emergency, if the emergency adversely affects the telework site (e.g., disruption of electricity, loss of heat, etc.); the teleworking employee faces a personal hardship that prevents him or her from successfully working at the telework site; or the teleworking employee's duties are such that he or she cannot continue to work without contact with other employees or the office's regular worksite. For more information, please refer to VITEMA Telework Policy.

I.7 EMPLOYEES AND PERSONNEL WITH DISABILITIES

VITEMA senior leadership will work with VITEMA Safety and Security to ensure employees and personnel with disabilities issues are addressed during Continuity operations and during activation of the OEP.

I.8 DISMISSAL OR CLOSURE PROCEDURES FOR ALL VITEMA PERSONNEL

VITEMA Continuity planning and procedures must follow established protocols on dismissal, status, and roles of non-emergency personnel, employee communications, pay and benefits, and staffing flexibilities. Additional guidance necessary to address specific Continuity events will be provided by VITEMA management as part of the alert and notification process.

In the event an emergency prevents access to VITEMA, non-ERG employees may receive instructions from VITEMA component senior leadership not to report for work. If an employee is prevented from working because he or she has been instructed by his or her agency head or other authorized official not to report for work, the employee normally will be excused from work without loss of pay or charge to his or her leave.

I.9 EMPLOYEE SAFETY DURING EMERGENCY EVENTS

While the Agency's management is responsible for designating employee status, employees also have an important role in assuring their own safety and the safety of other employees in the workplace. All employees must:

1. Be familiar with VITEMA's emergency procedures, such as the VITEMA COOP Plan and the OEP, and the means the Agency will use to inform and instruct employees;
2. Ask questions about VITEMA's COOP Plan and other emergency procedures and talk to managers about any suggestions you have that could improve safety;
3. Volunteer to assist in evacuation procedures and other duties performed during an emergency;
4. Be familiar with VITEMA's protocol, including knowledge of garments (jackets, caps, etc.) worn by floor team leaders, monitors and other volunteers;
5. Create a personal safety kit for emergencies and store it at the workspace. Appropriate items might include—required medication, bottled water, long-sleeved shirt or jacket, and emergency contact numbers;
6. Follow the instructions of designated emergency personnel; and
7. Remain vigilant and report any suspicious circumstances.

VITEMA's OEP provides specific instructions to all VITEMA employees on procedures they must follow in an emergency that affects VITEMA offices.

I.10 TERRITORIAL DISMISSAL OR CLOSURE PROCEDURES

A. Introduction

The following guidelines apply when situations prevent a significant number of government employees in the U.S. Virgin Islands from reporting for work on time or when agencies are required to close all or part of their activities, including major disasters and other emergency situations (e.g., terrorist attacks, exposure to biohazards, and other severe hazardous conditions); adverse weather conditions (snow emergencies, severe icing conditions, floods, and hurricanes); natural disasters; and other incidents causing disruptions of Government operations (disruption of electrical power and/or water, interruption of public transportation, closing of major transportation routes, etc.

B. VITEMA Responsibilities

1. At least annually, VITEMA will update, as appropriate, and disseminate written procedures on dismissal or closure affecting employees working in the Territorial area. This notice will inform employees on how they will be notified.
2. VITEMA components must notify their employees of the procedures for requesting leave or telework when an **"unscheduled leave or unscheduled telework"** opportunity is announced. When an **"unscheduled leave or unscheduled telework"** opportunity is announced, VITEMA employees must notify their immediate supervisor of their intent to take unscheduled annual leave, telework, leave without pay, and/or use previously earned compensatory time off or earned credit hours.
3. At least annually, VITEMA components must identify those employees who **must** report for work and continue Territorial Government operations during a disruption of operations and provide written notice they are designated as **"emergency employees."** The written notice identifying employees as emergency employees must include the requirement that these employees report for or remain at work when operations are disrupted and explain that dismissal or closure announcements do not apply to them unless they are instructed otherwise by their supervisor. In addition, VITEMA components may identify a cadre of **mission-critical emergency employees** who may work during extended emergencies, emergencies dealing with national security, or other unique situations. **VITEMA components must identify the emergency situations in which mission-critical emergency employees will be expected to report for work and notify the "mission-critical" emergency employees of this policy.** VITEMA components must direct "mission-critical" emergency employees to report for work at their regular worksite or an alternative worksite. Additionally, "mission-critical" emergency employees are expected to remain in contact with their supervisors at all times during any closure situation. VITEMA components

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may want to issue communications devices and other equipment to these "mission-critical" emergency employees to ensure contact in these situations.

If the VITEMA Director or designated representative determines that a situation requires "**non-emergency employees**" to report for or remain at work when operations are disrupted, the respective VITEMA components will notify their personnel individually.

4. VITEMA managers will notify employees that if they are required to report for work and are not otherwise granted excused absence, they will be charged as absent without leave for the period not worked and may potentially be disciplined for the absence without leave at the Agency's discretion.

ANNEX J: DEVOLUTION OF CONTROL AND DIRECTION

J.1 INTRODUCTION

Devolution requires the transition of roles and responsibilities for performance of essential functions through pre-authorized delegations of authority and responsibility. The authorities are delegated from an organization's primary operating staff to other employees internal or external to the organization in order to sustain essential functions for an extended period. Devolution is a continuity option instead of or in conjunction with relocation in order to ensure the continued performance of essential functions.

Devolution is the capability to transfer statutory authority and MEF responsibility from VITEMA staff and facilities to other VITEMA employees at an alternate Territorial location, FEMA Region II-Caribbean Area Division, or FEMA Region II, and to sustain this operational capability until VITEMA is reestablished.

Territory-to-Territory Devolution of Operations is the effort to ensure that a capability exists to transfer statutory authority and responsibility for conducting Mission Essential Functions (MEFs) from one Territory location to another Territory location for an extended period.

VITEMA Devolution Plan provides a mechanism for ensuring the continuity of VITEMA's MEFs. The plan provides an overarching policy and guidance for relocating Emergency Relocation Group (ERG) members to VITEMA's continuity site, as well as policy, procedures, and guidance for transferring VITEMA MEFs to another facility, designated as the devolution site.

PURPOSE

The purpose of this Annex is to provide VITEMA with a framework for standardizing their Devolution plans or annexes which focuses on catastrophic events that could occur with or without warning and render VITEMA facilities and/or personnel incapable of performing their MEFs.

During a catastrophic event that renders VITEMA-STT inoperable or unable to perform their MEFs, the transfer of Territorial statutory authority and responsibility for its MEFs will devolve to their Territory Counterparts at VITEMA-STX and VITEMA-STJ (per VITEMA Director's guidance). The table below is the default assignment unless directed otherwise.

Table J.1 – VITEMA Territory Devolution

VITEMA Territory Devolution
VITEMA-STX and VITEMA-STJ
FEMA Region II-CAD and FEMA Region II

J.2 DEVOLUTION PROCEDURES

In a devolution situation, VITEMA management, leadership responsibilities, and MEFs will devolve to designated VITEMA Devolution sites within the territory, Puerto Rico and FEMA Region II, New York. The VITEMA Devolution Plan provides guidance and direction for the performance of VITEMA MEFs in the event that the VITEMA ERG is unavailable or incapable of performing the VITEMA MEFs.

The applicability of the VITEMA Continuity Plan and Devolution Plan discuss the functions, operations, and resources necessary to ensure the continuation of VITEMA MEFs if disaster, attack, or catastrophe renders VITEMA-STT personnel incapable of sustaining operations at the VITEMA-STT facilities. The plan applies to VITEMA-STT, VITEMA-STJ, and VITEMA-STX. VITEMA staff must be familiar with Devolution policies and procedures and their respective Devolution roles and responsibilities:

- VITEMA has the planning lead for VITEMA Devolution, to include the development of the plan and the procedures enabling Devolution counterpart organizations to assume VITEMA MEFs;
- Continuity POCs and ERG members from VITEMA components are responsible for ensuring their counterparts are trained, equipped, and have access to any essential records, databases, and supporting materials necessary to facilitate an immediate transition of MEFs and sensitive responsibilities from VITEMA-STT to the new Devolution location;
- VITEMA-STJ and VITEMA-STX hold the primary regional responsibility for identifying, coordinating, and training personnel required to perform devolved MEFs. Region II-Caribbean Area Division (CAD), in conjunction with FEMA Region II, hold the secondary regional responsibility for identifying, coordinating, and training personnel required to perform devolved MEFs.
- VITEMA is required to review and submit updates to the Director, VITEMA no later than January 1st of each year; and
- VITEMA coordinates annual Devolution Plan reviews and updates.

J.3 DEVOLUTION LOCATIONS

Primary Devolution Sites are located in St Croix and St John. Secondary locations are located in Puerto Rico (CAD), and New York City, NY (Region II offices). Because of the limited staffing within the Territory to conduct all VITEMA MEFs, the following DERG staff and components will also work from the associated locations below to support devolution operations:

- VITEMA MEFs will devolve to FEMA-CAD or Region II.
- Territory 9-1-1 communication centers will devolve to the FEMA-CAD.

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- Territory emergency response efforts during major disasters and emergencies will devolve to the FEMA-CAD.
- Territory emergency recovery efforts following a disaster to ensure appropriate Federal assistance is quickly delivered to the impacted population and region to minimize suffering and disruption of services, and facilitate rapid return to normalcy will devolve to the FEMA-CAD.

The Region II Administrator will serve as the DERG Director and maintain operational control over devolution operations. The DERG Director sets the operational tempo of the devolution operations and will ask for assistance from other regions as the situation dictates.

VITEMA components, Devolution of Operations POCs, and FEMA Region II Continuity Manager shall annually, and after an actual event or a test, training, or exercise event, review Devolution personnel, equipment, and resources at each facility to ensure adequacy.

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ANNEX K: TEST, TRAINING, AND EXERCISE PROGRAM

K.1 INTRODUCTION

The Virgin Island Territory Emergency Management Agency (VITEMA) Continuity of Operations (COOP) Plan provides continuity planning, program direction, and guidance as a means of ensuring that VITEMA is capable of conducting its essential missions and functions under all threats and conditions. The VITEMA Continuity Test, Training, and Exercise (TT&E) Plan is in development and will be a companion document to the VITEMA COOP Plan and serves to assess, validate, or identify for a subsequent correction, all Component COOP Plans, policies, procedures, systems, and facilities used in response to a Continuity event. The TT&E program assists VITEMA to prepare and validate the organization's capabilities and program, and the ability to perform its Mission Essential Functions (MEFs) during any emergency.

The VITEMA Continuity TT&E Program is an essential component of VITEMA's strategy to develop and maintain the Agency's continuity capability, plans, and procedures. The TT&E Program ensures both compliance with the requirements and guidelines established for continuity TT&E Programs, per Continuity Guidance Circular 1, Homeland Security Exercise and Evaluation Program (HSEEP), and the Continuity Assistance Tool.

K.2 PURPOSE

The purpose of the TT&E program is to ensure the mission readiness of all elements of the VITEMA Continuity Program. The Continuity TT&E Program and the VITEMA Continuity TT&E Plan are an essential part of VITEMA's strategy for developing and maintaining its Continuity capability. Both the VITEMA Continuity TT&E program and the plan that supports it are the product of collaboration and cooperation among all VITEMA Components and represent an agency-wide effort to ensure the viability of the VITEMA Continuity Plan; the readiness of its Continuity personnel; and the adequacy and availability of resources to support Continuity operations.

K.3 OBJECTIVES

The VITEMA Continuity TT&E Plan serves as a guide in the development and implementation of the VITEMA Continuity TT&E Program, per guidance listed in CGC 1, and Annex K, TT&E Program. Specific plan objectives are listed below:

- Provide a common TT&E framework for Continuity personnel.
- Ensure Continuity personnel are sufficiently trained in all aspects of the Continuity program and can perform their assigned roles and responsibilities during any emergency.
- Demonstrate, assess, and improve VITEMA's Continuity plans, policies, and procedures.

- Identify the components, processes, equipment, resources, and requirements needed to support Continuity personnel and the performance of essential functions and ensure they are kept in a constant state of readiness.
- Identify VITEMA Continuity personnel TT&E roles and responsibilities.
- Develop a multi-year strategy and schedule and document TT&E events conducted, including dates, participants, results, and requirements met.

K.4 APPLICABILITY

The VITEMA COOP TT&E Program is applicable to the following:

- A. The Emergency Relocation Group;
- B. The Continuity POCs for each VITEMA component;
- C. Designated Successors;
- D. Individuals with Delegated Authority;
- E. Devolution Emergency Response Group
- F. Reconstitution Team; and
- G. Other Agency personnel.

K.5 REVISIONS OF THE VITEMA COOP TT&E PLAN

As part of the annual continuity plans and procedures maintenance, VITEMA Continuity Manager, will review and update the VITEMA Continuity TT&E Plan. Updates to the Plan may include identification and maintenance of processes and procedures including:

- A. Continuity Guidance Circular 1 (CGC 1) updates
- B. Continuity Assistance Tool updates
- C. Homeland Security Exercise and Evaluation Program updates
- D. VITEMA Continuity TT&E Multi-Year Calendar.

Comments or suggestions for improving this Plan may be provided to VITEMA Assistance Director. Once the plan has been reviewed and updated, the plan will be forwarded to the VITEMA Director for approval and signature.

K.6 CONCEPT OF OPERATION

Mission readiness of the VITEMA Continuity Program is accomplished through a careful blend of test, training, and exercise activities (TT&E events) for VITEMA Continuity personnel. Tests and exercises serve to assess and validate all elements of VITEMA's Continuity program and identify issues for improvement. Training provides the skills and familiarizes leadership and staff with the procedures and tasks they must perform in executing continuity plans. The VITEMA will plan, conduct, and document periodic tests, training, and exercises to

prepare for all-hazards continuity emergencies and disasters, identify shortfalls, and demonstrate the viability of their continuity plans and programs. Collectively, testing and training not only ensure that personnel are adequately prepared; but also ensure that procedures, processes, equipment, facilities, essential records and other resources critical to Continuity operations have been readied, pre-positioned, and validated.

Achieving the goal of continuity mission readiness is possible only if TT&E events are conducted on a regular schedule and if each event contributes to some aspect of readiness. The VITEMA Continuity TT&E Program will utilize the “progressive approach” outlined in the Homeland Security Exercise and Evaluation Program (HSEEP). VITEMA will use a combination of discussion/operational based exercises to ensure the mission readiness of all elements of the VITEMA Continuity Program.

VITEMA TT&E events are conducted at the following levels:

- Interagency-Level Continuity TT&E Events
- VITEMA- Level Continuity TT&E Events
- Organizational-Level Continuity TT&E Events
- Territorial-Level Continuity TT&E Events

See the Virgin Islands Territorial Emergency Management Agency, Continuity of Operations, Test, Training, and Exercise Plan for a complete view of the Agency's TT&E Program.

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ANNEX L: GUIDANCE FOR SELECTING CONTINUITY OF OPERATIONS POC AND ERG MEMBERS

L.1 INTRODUCTION

Key facets of the VITEMA COOP Plan are the personnel who coordinate and carryout VITEMA's essential functions.

L.2 CONTINUITY OF OPERATIONS POINT OF CONTACT

All VITEMA components must select at least one Continuity of Operations POC to represent their respective component. The Continuity of Operations POCs play a key role in support of the VITEMA Continuity of Operations Program and are the primary liaison between the VITEMA Operations Division and their respective VITEMA component and component ERG members. Each Continuity of Operations POC is critical to the effective and efficient implementation of the VITEMA COOP Plan and the readiness and preparedness of ERG members to perform the essential functions of their respective component. Responsibilities, as described in Table L-1, may include:

Table L-1: COOP POC Responsibilities

COOP POC Responsibilities
<ul style="list-style-type: none">Administrative duties may include attending Continuity Working Group Meetings, program specific event meetings, and providing guidance and updates to component personnel as required.
<ul style="list-style-type: none">Program responsibilities will include updating plans, facilitating the process of identifying and reviewing component essential functions, maintaining rosters, ensuring orders of succession, delegations of authority, and essential records are up to date.
<ul style="list-style-type: none">Participate in training and exercises, and work with their devolution program components.

L.3 EMERGENCY RELOCATION GROUP (ERG) MEMBER

All VITEMA components must identify who within their organization will perform their organization's mission essential functions, which ultimately support VITEMA's overarching mission essential functions during a VITEMA COOP Plan activation. Each ERG member is selected by his/her respective supervisor or other designated component official. After the ERG member has been selected, he/she should receive a Notification of Selection Emergency Relocation Group Team Member Letter from their component's Director or supervisor (see sample on page L-3).

Note: When selecting an ERG member, identify any disability accessibility requirements and provide them to the Alternate Facility Building Manager. Table L-2 provides criteria for ERG selection.

Table L-2: ERG Member Selection Criteria

Emergency Relocation Group Member Selection Considerations	
<ul style="list-style-type: none">• Possess the skills needed to perform predetermined MEFs that must be performed, regardless of the operational status of the VIITEMA primary operating facility.	
<ul style="list-style-type: none">• Has knowledge and expertise in performing the MEFs.	
<ul style="list-style-type: none">• Has a current episodic telework agreement in place.	
<ul style="list-style-type: none">• Has attended training required to perform duties.	
<ul style="list-style-type: none">• Has the ability to report within the required time frame.	
<ul style="list-style-type: none">• Has the ability to handle stressful situations.	
<ul style="list-style-type: none">• Has the ability to work in a team environment.	

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DATE

MEMORANDUM FOR: ***Selected ERG Member***
Title
Division

FROM: ***Division Director Name***
Title
Division
Office /Component (Symbol)

SUBJECT: Notification of Selection of ***(Symbol)*** Emergency
Relocation Group Team Member

You have been designated as a Primary/Alternate "Emergency Relocation Group (ERG)" member for the ***Office /Component (Symbol)***. The ***(Symbol)*** ERG member consists of VITEMA employees who are required to continue the ***(Symbol)*** Essential Functions during an emergency. The ***(Symbol)*** ERG are vital to the Virgin Islands Emergency Management Agency (VITEMA) operations and required to continue the VITEMA Mission Essential Functions (MEFs) during and after an emergency.

As a ***(Symbol)*** ERG member, you will be notified for a Continuity of Operations (COOP) activation and deployment. When the VITEMA MEFs can no longer be performed at the primary facility due to a local, regional or national emergency, and it becomes necessary to conduct operations at an Emergency Relocation Site (ERS) or alternate facility, the ERG will be activated and you will be deployed. As an ERG member you must deploy as instructed and be prepared to remain at the ERS or an alternate facility for up to 30 days, or until normal operations resume.

In the event of an emergency situation, regardless of weather conditions or any other public announcements of dismissal or suspension of activities, you must report for duty at the location that is pre-designated as the ERS or alternate facility, unless otherwise directed. If you cannot report for duty because your personal safety is in jeopardy, please contact me, my designated successor, or the COOP Point of Contact (POC) immediately.

The specific ERG member responsibilities are as follows:

- Be thoroughly familiar with the VITEMA COOP Plan and your Component Implementation Plan
- Understand the essential function(s) to be performed during Continuity of Operations and the location where the function(s) will be performed;

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- Identify all personal and professional materials required to activate the COOP Plan. To the maximum extent possible, pre-position these materials at the ERS;
- Prepare a drive-away kit as needed that contains all personal and professional items not yet pre-positioned for activation;
- Ensure that all necessary data, files, databases, etc., are copied to the VITEMA COOP folder on a daily basis;
- Participate in VITEMA Continuity tests, training, and exercises;
- Be accessible 24-hours-per-day, 7 days per week (24/7) for potential notification of a continuity activation and deployment;
- Make arrangements in advance to ensure that someone else will satisfactorily address personal and home responsibilities during a possible extended absence;
- Relocate, when notified, according to directions provided;
- Report to the ERS and begin performing essential functions as required; and
- Continue performing essential function(s) throughout the duration of the Continuity activation and assist in the reconstitution process, if necessary.

You will receive the following items or aids from your COOP POC for your information and usage:

- Signed copy of this memorandum;
- Copy of the VITEMA COOP Plan;
- Copy of your Component Implementation Plan;
- Travel FAQ's; and
- COOP folder information.

If you have any questions about Continuity of Operations or your ERG responsibilities, please contact **Your COOP POC Name** by telephone at **(XXX) XXX - XXXX**.

You are required to acknowledge receipt of this memorandum by signing in the space provided below. Your signature also signifies you understand the ERG responsibilities and accept your assignment to the **(Symbol)** ERG.

ERG Member's Name: _____

Date: _____

ANNEX M: NATIONAL TERRORISM ADVISORY SYSTEM (NTAS) THREAT ALERT MATRIX (VITEMA)

M.1 INTRODUCTION

VITEMA responses to the NTAS Threat Alert are described in Table M-1. Figure M-1 provides a sample NTAS alert bulletin.

Table M-1: Continuity of Operations Threat Conditions and Potential Responses

National Terrorism Advisory System (NTAS)		
Threat Alert	Threat Condition Criteria	VITEMA Response
Imminent Threat Alert	Warns of credible, specific, and impending terrorist threat against the United States. (If we believe the threat is impending or very soon)	<ul style="list-style-type: none"> • Activate the VITEMA COOP Plan • Activate the VITEMA COOP ERG if the threat is specific to the Caribbean Area
Elevated Threat Alert	Warns of credible terrorist threat against the United States. (No specific information about the timing or location)	<ul style="list-style-type: none"> • The VITEMA COOP Plan is not activated • Place the VITEMA COOP ERG on alert if the threat is specific to the National Caribbean Area

M.2 RESPONSIBILITIES ACROSS THE AGENCY FOR DISSEMINATING INFORMATION BASED ON NTAS ALERTS

The EOC shall be VITEMA's primary alert and coordination center for NTAS alert notifications. Upon official notification of an NTAS alert or change from DHS, or other designated authority, the EOC will immediately notify designated VITEMA personnel and facilities, and other Agencies, as follows:

VITEMA Personnel and Facilities:

- A. The EOC will individually notify VITEMA senior leadership of any NTAS alerts, alert expirations or rescissions, or changes in the threat environment.
- B. The EOC will simultaneously notify other VITEMA Leadership and all other key, staff using the EAS, and/or other methods of notification.
- C. Individuals and facilities notified by the EOC will develop procedures and protocols to further disseminate NTAS alert and changes within their subordinate organizations.

- D. The EOC will be responsible for developing detailed, internal procedures to facilitate the dissemination of NTAS alert and changes.
- E. The Office of the Chief Administrative Officer, Safety, Health, and Medical Readiness Division will determine the need for, and coordinating any actions affecting or requiring PPE or medical countermeasures.
- F. The EOC will notify VITEMA personnel of Continuity of Operations activities, if necessary.

Special Notification Procedures and Conditions:

- A. As required, the EOC will accomplish notifications using secure communications systems. Procedures for secure dissemination will be determined and published separately.
- B. When appropriate and approved by the President, the EOC may activate the EAS to disseminate a special Presidential announcement.
- C. VITEMA relies on a variety of redundant communications systems to relay notifications, including the NAWAS, WAWAS, EAS, and AUDIX, a teleconferencing system, and email. The non-availability of one system may slow down, but will not prevent, dissemination of NTAS alert and changes to all intended parties.
- D. Although only the Secretary of Homeland Security is authorized to issue NTAS alerts and changes, the VITEMA Director and VITEMA leadership may.
 - 1. Specifically *exclude* the implementation of selected VITEMA Protective and Preparedness Actions from the *announced* alert, or
 - 2. Specifically *include* the implementation of selected VITEMA Protective and Preparedness Actions from a *higher* alert NTAS-AIP checklist.

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ANNEX N: EXECUTIVE BRANCH CONTINUITY OF GOVERNMENT READINESS CONDITIONS (COGCON) MATRIX

Readiness Level	Department & Agency (D/A)			Continuity Capability		
	Operations	Staffing Level	Time to Transition to Successive Stages	Communications	Succession	Impact on Departments & Agencies
COGCON 4	<ul style="list-style-type: none"> Continue to perform headquarters business functions at normal location(s) Maintain alternate operating facility(ies) in accordance with agency continuity plans to ensure readiness for activation at all times Conduct training and exercise activities in accordance with agency continuity and Test, Training, and Exercise (TTE) plan(s) to ensure personnel readiness 	<ul style="list-style-type: none"> No staffing required at alternate operating facility(ies) Maintain normal delegations and devolution of authority to ensure performance of essential functions to respond to a no-notice event 	<ul style="list-style-type: none"> Continuity plan is fully operational within 12 hours 	<ul style="list-style-type: none"> Test all internal agency communications capabilities between normal operating locations (HQ and other) and alternate operating facility(ies) no less than quarterly Test all communications capabilities at all alternate operating facility(ies) with applicable interagency partners no less than quarterly 	<ul style="list-style-type: none"> No special measures to protect or track the location of agency leadership and successors Ensure delegations of authority to lead departments and agencies are in place for senior personnel located outside of the National Capital Region 	<ul style="list-style-type: none"> No additional requirements
COGCON 3	<ul style="list-style-type: none"> Continue to perform headquarters business functions at normal location(s) Maintain alternate operating facility(ies) in accordance with agency continuity plans to ensure readiness for activation at all times Conduct additional training activities to increase personnel readiness (e.g. Team tabletops, review recall lists, review plans and procedures) 	<ul style="list-style-type: none"> No staffing required at alternate operating facility(ies) unless necessary to meet 8-hour operational requirement Maintain normal delegations and devolution of authority to ensure performance of essential functions to respond to a no-notice event 	<ul style="list-style-type: none"> Continuity plan is fully operational within 8 hours 4 hours to COGCON 2 	<ul style="list-style-type: none"> Conduct at least one additional internal agency communications test between normal operating locations (HQ and other) and alternate operating facility(ies) within 24 hours 	<ul style="list-style-type: none"> Track the locations of agency leaders and their successors on a daily basis 	<ul style="list-style-type: none"> Additional staff time for communications testing and tracking agency leadership Potential shorter response times for basic staffing of alternate facility(ies)
COGCON 2	<ul style="list-style-type: none"> Continue to perform headquarters business functions at normal location(s) Monitor/track major HQ activities Maintain alternate operating facility(ies) in accordance with agency continuity plans to ensure readiness for activation at all times Take appropriate steps to ensure alternate operating facility(ies) can be activated with 4 hours' notice 	<ul style="list-style-type: none"> Deploy sufficient staff to alternate operating facility(ies) to allow activation with 4 hours' notice 	<ul style="list-style-type: none"> Continuity plan is fully operational within 4 hours 4 hours to COGCON 1 	<ul style="list-style-type: none"> Conduct internal agency communications test between normal operating locations (HQ and other) and alternate operating facility(ies) within 24 hours and repeat not less than weekly Conduct communications test at all alternate operating facility(ies) with applicable interagency partners within 48 hours and repeat not less than weekly 	<ul style="list-style-type: none"> Track the locations of agency leaders and their successors on a daily basis Ensure at least one headquarters-level agency successor is out of the National Capital Region at all times 	<ul style="list-style-type: none"> Potential increased travel requirements for agency leadership Some staff is required to work from alternate location(s) Potential shorter response times for additional staffing of alternate facility(ies)
COGCON 1	<ul style="list-style-type: none"> Continue to perform headquarters business functions at normal location(s) as appropriate Monitor/track major HQ activities Perform day-to-day functions at alternate facility(ies) as appropriate Take appropriate steps to ensure alternate operating facility(ies) can be activated with no notice 	<ul style="list-style-type: none"> Deploy sufficient staff to alternate operating facility(ies) to perform essential functions with no notice 	<ul style="list-style-type: none"> Agency headquarters continuity plan activated immediately and report operational status within two hours 	<ul style="list-style-type: none"> Test internal agency communications between normal operating locations (HQ and other) and alternate operating facility(ies) daily Conduct communications tests at all alternate operating facility(ies) with applicable interagency partners daily 	<ul style="list-style-type: none"> Track the locations of agency leaders and their successors on a daily basis At least one headquarters-level agency successor must be at alternate operating facility(ies) 	<ul style="list-style-type: none"> Some agency leaders work from alternate facility(ies) Significant number of staff are required to work from alternate location(s)

Table N-1: COGCON Matrix Readiness Checklist

COGCON Matrix Readiness Checklist	
COGCON 4 Actions: Operations are to continue as normal from VITEMA. Alternate facilities are maintained in accordance with FCD 1/CGC 1 guidance, to ensure readiness for activation of COOP Plan. Continuity plan is fully operational within 12 hours.	
COOP POC Responsibilities:	
<input type="checkbox"/>	Ensure component is aware of continuity planning and their roles.
<input type="checkbox"/>	Ensure component has a current Orders of Succession and Successor is trained on component duties.
<input type="checkbox"/>	Review EAS lists to ensure names have been deleted for those who have left VITEMA and that new personnel are in the system to receive notifications.
VITEMA Responsibilities:	
<input type="checkbox"/>	Test communications capabilities at alternate facility.
<input type="checkbox"/>	Maintain the alternate facility and stay ready to receive ERG members upon COOP Plan activation.
COGCON 3 Actions: Operations are to continue to as normal from VITEMA. Alternate Facilities are maintained in accordance with FCD 1/CGC 1 guidance to ensure readiness for activation of COOP Plan. Continuity plan is fully operational within 8 hours, 4 hours to COGCON Level 2.	
COOP POC Responsibilities:	
<input type="checkbox"/>	Ensure component personnel understand the reason for the COGCON change and their expected actions. Disseminate pertinent information as it is received.
<input type="checkbox"/>	Review EAS lists to ensure names have been deleted for those who have left VITEMA and that new personnel are in the system to receive notifications.
<input type="checkbox"/>	Conduct a communications test with the alternate facility or other partner as required.
<input type="checkbox"/>	Track component leadership to ensure accountability and understanding of who is in charge when the COOP Plan is activated.
VITEMA Responsibilities:	
<input type="checkbox"/>	Work with the FOC to ensure a COGCON change notification addresses pertinent information for the situation.
<input type="checkbox"/>	Maintain the alternate facility and stay ready to receive ERG members upon notification.
<input type="checkbox"/>	Report VITEMA's overall status to Region II.
<input type="checkbox"/>	Receive and analyze D/A Status Reports.
COGCON 2 Actions: Operations are to continue as normal from VITEMA primary facility. Alternate Facilities are maintained in accordance with FCD 1 guidance to ensure readiness for activation of COOP Plan. Continuity plan is fully operational within 4 hours, 4 hours to COGCON Level 1.	
COOP POC Responsibilities:	
<input type="checkbox"/>	Ensure component personnel understand the reason for the COGCON Change and their expected actions. Disseminate pertinent information as it is received.
<input type="checkbox"/>	Review EAS lists to ensure names have been deleted for those who have left VITEMA and that new personnel are in the system to receive notifications.
<input type="checkbox"/>	Deploy sufficient staff to alternate facility to allow activation within 4 hours of notice.
<input type="checkbox"/>	Conduct communications test between alternate facility and normal operating location within 24 hours of notification.
<input type="checkbox"/>	Conduct communication test between alternate facility and applicable interagency partners within 48 hours of notification.

COGCON Matrix Readiness Checklist

VITEMA Responsibilities:

- ☐ Work with the FOC to ensure a COGCON change notification addresses pertinent information for the situation.
- ☐ Prepare the alternate facility to receive ERG members upon notification.
- ☐ Review COOP Support Team Standard Operating Procedures.
- ☐ Send pre-activation team personnel to alternate facility to prepare for arrival of full staff, (upon COGCON 1 activation).

- ☐ Send pertinent information to component COOP POCs as required.
- ☐ Gather information on component successors.
- ☐ Report VITEMA's overall status to the Governor.
- ☐ Receive and analyze D/A Status Reports.

COGCON 1 Actions: Activate the Continuity plan immediately and report operational status within 2 hours. Notify ERG personnel and proceed to alternate facility.

COOP POC Responsibilities:

- ☐ Report to alternate facility and begin gathering data for the STATREP, in accordance with VITEMA COOP Plan guidance, report is due to Director, VITEMA no later than 2 hours of arrival at alternate facility. Email STATREP to specified email address: TBD
- ☐ Review EAS lists to ensure names have been deleted for those who have left VITEMA and that new personnel are in the system to receive notifications.
- ☐ Provide guidance and assistance to ERG members.
- ☐ Upon arrival at alternate facility ensure ERG members can log onto their workstations and provide assistance with access to component COOP folders.
- ☐ Conduct communications test between alternate facility and normal operating location within 24 hours of notification.
- ☐ Conduct communication test between alternate facility and applicable interagency partners within 48 hours of notification.

FEMA Region/CAD Responsibilities:

- ☐ Work with the FOC to ensure a COGCON change notification addresses pertinent information for the situation.
- ☐ Prepare the alternate facility to receive ERG members upon notification.
- ☐ Review COOP Support Team Standard Operating Procedures.
- ☐ COOP Support Team in place for arrival of ERG members.
- ☐ Send pertinent information to component COOP POCs, as required.
- ☐ Gather information on component successors.
- ☐ Report VITEMA's overall status to the Governor's Office.
- ☐ Receive and evaluate D/A Status Reports.

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ANNEX O: COOP DAILY STATUS AND ATTENDANCE REPORT

Email Report to: _____

Date of Report:		Time Submitted:
Component POC:		POC Phone:
Name of Component/Organization:		
Senior Director On-Site:		
Phone:	Location:	Email:

Section I: Personnel Status

ERG:

Total Number of ERG Members:

Total Number of ERG Members on-site:

Total Number of ERG Members Teleworking:

Total Number of ERG Members Not Accounted For:

Non-ERG:

Total Number of Employees:

Total Number Accounted For:

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Total Number of Employees Teleworking:

Total Number Not Accounted For:

Comments:

Section II: Organizational Activities

Provide Summary of Notable Ongoing Activities as of This Report:

Section III: Building or Administrative Issues

1. Provide feedback on the following areas (if applicable):

Administrative:

Logistics Support:

Operations:

2. Please include any issues or recommendations you would like include in the after action report:

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ANNEX P: EMPLOYEE ACCOUNTABILITY

P.1 INTRODUCTION

This annex provides all VITEMA personnel with employee accountability procedures and the guiding principles that direct VITEMA's continuity actions in the event of normal notification to VITEMA Emergency Relocation Group members, and all other employees, for activation under this plan. These procedures provide guidance on how to account for and maintain contact with all VITEMA employees during a continuity event. It is not intended to replace or supersede processes and procedures for normal/day to day staff accountability.

P.2 EMPLOYEE ACCOUNTABILITY OVERVIEW

When an emergency occurs in the VITEMA-STT building or the Virgin Islands Territory that warrants activation of the Continuity Plan, each VITEMA component must maintain accountability of all their personnel, including those:

- A. Who are at work during the emergency.
- B. Assigned to the building(s) affected by the emergency.
- C. On leave.
- D. On travel.
- E. At the alternate facility.
- F. Telework, if applicable.

All VITEMA employees should be aware of the accountability procedures for the Agency and their respective component. They should speak with their supervisor and their VITEMA COOP POCs for procedures regarding their accountability responsibilities during an emergency or continuity event.

The following items pertain to employee accountability and are explained below:

A. VITEMA COOP Hotline

Information and guidance for VITEMA employees will normally be provided by telephone using existing emergency notification processes, as identified in each component's Continuity Implementation Plan. Depending on the situation, current information will also be available via the VITEMA COOP Hotline (TBD).

B. VI-ALERT (Emergency Alert System)

One of the duties performed by EOC Operations Officers involves alert and notification, and dissemination of information. Notifications are made to individuals as well as to a large number of inter- and intra-agency groups, teams, or operations centers. EOC Operations Officers utilize the automated voice notification system, Emergency Alert System (EAS) to make nearly all notifications.

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The EAS, in conjunction with call cascades and the COOP Daily STATREP (Appendix O), is utilized by the Agency for personnel accountability to assist Human Resources manage and monitor the safety and security of personnel during emergencies.

C. When will the EOC use the EAS?

The EOC will use the EAS when a major disaster or emergency occurs with or without warning that could threaten the safety and security of VITEMA personnel. Other circumstances warranting utilization of the EAS are upon request.

D. Why should I respond?

The EAS provides vital information regarding your safety, your status, and your availability to report to the alternate facilities or other locations, if needed.

E. When should I call?

When the EAS is activated, personnel must report their status via the EAS. In an emergency, VITEMA personnel should also utilize their component's accountability procedures to report their safety status.

F. What information should I provide?

The EAS will provide detailed instructions. Listen to the instructions and respond to them accordingly.

P.3 CURRENT VITEMA PERSONNEL ACCOUNTABILITY PROCESS

The following applies to all ERG and non-ERG members:

- A. At the onset of a continuity event or other emergency, the TCC will activate the EAS to alert and notify all VITEMA personnel.
 1. A report is generated after the alert and notification period is over to document who was called, who acknowledged receipt, and those who were non-responsive.
- B. Listen to the complete EAS message and follow any instructions given which may include a survey asking specific/pertinent questions such as:
 1. What is your current location:
 - a) Home
 - b) Work
 - c) Leave
 - d) En route to continuity facility
 2. Estimated time of arrival at the alternate site?
 - a) Within 1 hour
 - b) Within 2 hours

- c) N/A
- 3. We may need to contact you for further information. Please enter your ten digit phone number followed by the pound sign.
 - a) { ____ ____ ____ }
- 4. Are you able to telework, if applicable?
 - a) Yes
 - b) No
- 5. Are you an ERG Member?
 - a) Yes
 - b) No
- C. Component COOP POCs report the status of their personnel in the COOP Status Reporting Form (Appendix O). Information is generally obtained from the EAS System and component call cascades.
- D. Daily component calls and STATREPs are completed and submitted once all personnel have been accounted for.
- E. The EAS process operates in conjunction with other accountability systems and does not supersede existing emergency notification processes, as identified in component's Continuity Implementation Plan. VITEMA components have Call Cascades (phone trees) which may be initiated/activated to facilitate accountability and the development of STATREPs.

P.3.1 ERG Member Process

- A. ERG members will follow the instructions provided to them via the EAS and report to the alternate location as directed and check-in at the front desk of the alternate location.
- B. Component Continuity POCs are responsible for reporting their respective ERG personnel accountability.
- C. At regularly scheduled intervals, Component Continuity POCs will be given a list of those ERG members that have not checked-in, to determine, report, and update their status.

P.3.2 Non-ERG Member Process

- A. Non-ERG members will follow the instructions provided to them via the EAS.
- B. Component Continuity POCs are responsible for reporting their respective Non ERG personnel accountability.
- C. At regularly scheduled intervals, Component Continuity POCs will be given an EAS report that lists Non-ERG members that did not respond to the EAS

notification. Continuity POCs will utilize this list, and tools such as their Call Cascade, to determine, report, and update Non-ERG personnel status.

During the incident VITEMA will provide updated information and guidance for VITEMA personnel via telephone or existing emergency notification processes, as identified in each component's Continuity Implementation Plan. Depending on the situation, VITEMA will also provide information via:

- The VITEMA COOP Hotline (TBD).
- Announcements released to all national media, wire services and local media (including local media in proximity to the event).

P.4 CONTINUITY OF OPERATIONS OUTREACH/SUPPORT

In addition to personnel accountability, all VITEMA personnel have the responsibility of maintaining communication with their management throughout the emergency or event to maintain situational awareness (i.e., support component's efforts via telework and/or report to VITEMA or other facility to resume work).

In a Continuity event, unless otherwise directed, most employees will be directed to:

- A. Go home or to another safe location.
- B. Communicate their safety status through their component's accountability process and/or the EAS.
- C. Remain available to work.
- D. Wait for further direction/instruction from management.

If VITEMA personnel are uncertain about their responsibilities during a Continuity event, they should speak with their supervisor and VITEMA Continuity POC.

P.5 VITEMA CONTINUITY OF OPERATIONS DIVISION WEBSITE

A variety of resources are available to all VITEMA personnel on the VITEMA Continuity Website: Under development.

P.6 VITEMA CONTINUITY SUPPORT TEAM (CST)

During a Continuity activation there are numerous ways the CST tracks personnel. Below are the listed tools CST members use to assist VITEMA components in tracking their personnel during an activation/operation:

- A. **EAS**: The initial EAS message goes out with reporting instructions for ERG members, and instructions for non-ERG members. The EAS will then generate a report showing those personnel who have responded/not-responded to the initial call. An assigned CST member will work with each component and send the report results to the Continuity POC showing status of their personnel. Component Continuity POCs are to account for their personnel who have not responded and provide a report to the CST on status

of personnel. This information should be included in the COOP Daily STATREP.

- B. **COOP Daily STATREP:** Each VITEMA component must account for their personnel and provide a Daily STATREP to Operations Division during any Continuity event. The Daily STATREP is submitted by each component within two hours upon arrival at the Continuity site, and at 3:00 pm EST/EDT daily for the duration of the event.

P.7 VITEMA NCP STATUS AND TRACKING RESPONSIBILITIES

- A. Compile the VITEMA COOP Daily STATREP.
1. Track ERG and non-ERG accountability.
 2. Track and report operational issues.

P.7.1 VITEMA Continuity STATREP Procedure

- A. ☐ Request Continuity Daily STATREP from Component COOP POCs. Initial report is due two hours after arrival. Subsequent reports are due at 3:00 pm EST/EDT daily. See sample of STATREP in Annex O.
- B. ☐ Review submissions to ensure all VITEMA components have submitted report.
- C. ☐ Analyze the data submitted and complete a final report using a blank STATREP Form. Compile report for VITEMA's continuity operating status.
- D. ☐ Maintain a list of Continuity issues/gaps and establish a Corrective Action Report for current Continuity activation.

P.8 FAMILY EMERGENCY PLANNING

Safety is the first priority for all VITEMA personnel and their families. Depending on the scope of the emergency, a Continuity event will directly affect VITEMA personnel and their family. There will be a period of uncertainty about what is happening, the severity of the event, and what they should do to protect themselves and their loved ones. A comprehensive family emergency plan will minimize these impacts and should be one of your highest priorities. All VITEMA employees are encouraged to develop their own family emergency plan.

The links below provide a variety of resources available to you and your family for creating a family emergency plan:

- Ready.gov – www.ready.gov
- DHS Ready Program – www.dhs.gov
- American Red Cross – www.redcross.org
- Emergency Management Agencies Nationwide
- State, Territory, and Local Government Emergency Management Agencies in your community, such as Citizen Emergency Response Teams

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ANNEX Q: PANDEMIC PLANNING

Q.1 INTRODUCTION

The Homeland Security Council, in both the National Strategy for Pandemic Influenza (November 2005) and the National Strategy for Pandemic Influenza Implementation Plan (May 2006), describes the framework for U.S. Government planning efforts for Pandemic Influenza. In addition, the Strategy and the Implementation Plan are consistent with The National Security Strategy and the National Strategy for Homeland Security. The Implementation Plan states in Chapter 9 – Instructions: Protecting Personnel and Ensuring Continuity of Operations:

“Unlike many other catastrophic events, an influenza pandemic will not directly affect the physical infrastructure of an organization. While a pandemic will not damage power lines, banks, or computer networks, it will ultimately threaten all critical infrastructures by its impact on an organization’s human resources by removing essential personnel from the workplace for weeks or months.”

“The Federal government recommends that government entities and the private sector plan with the assumption that up to 40 percent of their staff may be absent for periods of about 2 weeks at the height of a pandemic wave with lower levels of staff absent for a few weeks on either side of the peak. These absences may be due to employees who: care for the ill; are under voluntary home quarantine due to an ill household member; care for children dismissed from school; feel safer at home; or are ill or incapacitated by the virus. Movement of essential personnel, goods and services, and the maintenance of critical infrastructure are necessary during an event that spans weeks to months in any given community. Effective Continuity Planning including protection of personnel during an influenza pandemic is a good “business practice” that must become part of the fundamental mission of all Federal, State, local and tribal governmental departments and agencies, private sector businesses and institutions, and schools and universities.”

Q.2 CONCEPT OF OPERATIONS

Since an outbreak of a pandemic most likely will not affect the buildings and infrastructure physically, the main assumption for a pandemic situation is that VITEMA's offices will remain open for business. VITEMA will, however, comply with any instructions from the Governor, demanding closure or restrictions in open hours.

The VITEMA Director, or his/her designee, will decide when to implement the Pandemic Annex of the Continuity Plan, in accordance with figure 1.

Planning for a pandemic is as much planning for the unknown as any other incident. A pandemic might start overseas or in the United States/Territories. However, the assumptions are the same when it comes to the remedies. Once a pandemic starts, there may/or may not be any vaccines for the first months. The same holds true for personal protective equipment availability. Depending on the

contagiousness of the disease, the protective measures will differ. Because of the uncertainty of available protective measures, this plan will only talk about generic protective measures, and use the broadest perspective possible.

Q.3 RESPONSIBILITIES

The VITEMA Director is responsible for the pandemic program at VITEMA. Ensuring staff knowledge, testing and training of the plan will be the responsibility of the Deputy Director Preparedness Division. All staff is expected to participate in VITEMA's training and exercise program and to be familiar with the plans and procedures in case of a pandemic.

Q.4 PREPAREDNESS

The actual threats to individuals and infrastructure are not known, as viruses mutate requiring different levels of response for various locations and populations. By monitoring the World Health Organization's (WHO) Information Center and following federal guidance, it is possible to increase readiness capability by bringing to bear the most efficient resources for the type of threat that is present. Through the completion of baseline tasks we can help better prepare our employees and Territory to cope with and respond to a pandemic outbreak.

Influenza, being very contagious and with its history of widespread pandemics, will be used as the model for planning purposes. However, this annex is applicable to all types of airborne pandemics. The key to a prepared workforce is the knowledge, implementation and exercise of this annex. Other actions of equal importance include the testing of communication systems, coordination with our response and recovery partners, and exercise / training for all concerned.

Mitigation of a pandemic outbreak is a mix of preparedness (to lessen the affects due to unanticipated shortfalls of resources) and lessons learned (to lessen the affects during re-occurrence). Isolation from infected populations is the best means to avoid exposure. After exposure self isolation is the best way to protect your fellow employees. Mitigation also includes the gathering and implementation of successful procedures that worked in other areas previously affected (PPE, medications, group susceptibility to the current mutation, etc.).

Q.5 OBJECTIVES

The objectives of this annex are as follows:

- Provide information for the health and safety of VITEMA employees;
- Ensure that VITEMA will be able to maintain its essential functions and services in the face of significant and sustained absenteeism;
- Ensure the continuity of the leadership of VITEMA;
- Communicate pandemic preparedness and response guidance to all VITEMA stakeholders; and

- Achieve a timely and orderly recovery from a pandemic and resumption of functions and service while preparing for subsequent waves.

Q.6 PLANNING ASSUMPTIONS

These assumptions, based largely on the 1918 influenza pandemic, are being used throughout the Federal government to define a severe case scenario. These include²:

- Susceptibility to the pandemic influenza virus will be universal.
- The clinical disease attack rate will likely be high in the overall population during the pandemic. Illness rates will be highest among school-aged children (about 40%) and decline with age. Among working adults, an average of 20% could become ill during a community outbreak.
- Some persons will become infected but not develop clinically significant symptoms. Asymptomatic or minimally symptomatic individuals can transmit infection and develop immunity to subsequent infection.
- The pandemic will not hit the whole society evenly, but hit different groups at different times. Services with a lot of human contact will likely be harder hit than other, more automated services.
- Risk groups for severe and fatal infection cannot be predicted with certainty but are likely to include infants, the elderly, pregnant women, and persons with chronic medical conditions.
- Rates of absenteeism will depend on the severity of the pandemic.
- Certain public health measures (closing schools, quarantining household contacts of infected individuals, “snow days”) are likely to increase rates of absenteeism.
- Persons who become ill may shed virus and can transmit infection for up to one day before the onset of illness.
- On average, infected persons will transmit infection to approximately two other people.
- In an affected community, a pandemic outbreak may last about 6 to 8 weeks.
- Multiple waves (periods during which community outbreaks occur across the country) of illness could occur with each wave lasting 2-3 months. Historically, the largest waves have occurred in the fall and winter, but the seasonality of a pandemic cannot be predicted with certainty.

Please note that these are planning assumptions, not a prediction of how a pandemic will actually hit.

² <http://www.pandemicflu.gov/plan/index.html>

Q.7 PUBLIC HEALTH MEASURES

The Department of Health and Human Services (HHS) has developed a set of mitigation recommendations. These recommendations are likely to evolve as more information about their effectiveness and feasibility becomes available. To minimize economic and social costs, it will be important to judiciously match interventions to the pandemic severity level. However, at the time of an emerging pandemic, depending on the location of the first detected cases, there may be scant information about the number of cases and deaths resulting from infection with the virus. Although surveillance efforts may initially only detect the “herald” cases, public health officials may choose to err on the side of caution and implement interventions based on currently available data and iteratively adjust as more accurate and complete data become available. These pandemic mitigation measures include the following³:

1. Isolation and treatment (as appropriate) with influenza antiviral medications of all persons with confirmed or probable pandemic influenza. Isolation may occur in the home or healthcare setting, depending on the severity of the individual's illness and/or the current capacity of the healthcare infrastructure.
2. Voluntary home quarantine of members of households with confirmed or probable influenza case(s).
3. Dismissal of students from schools (including public and private schools as well as colleges and universities) and school-based activities and closure of childcare programs, coupled with protecting children and teenagers through social distancing in the community to achieve reductions of out-of-school social contacts and community mixing.
4. Use of social distancing measures to reduce contact between adults in the community and workplace, including, for example, cancellation of large public gatherings and alteration of workplace environments and schedules to decrease social density and preserve a healthy workplace to the greatest extent possible without disrupting essential services. Enable institution of workplace leave policies that align incentives and facilitate adherence with the non-pharmaceutical interventions outlined above.

³ http://www.flu.gov/planning-preparedness/community/community_mitigation.pdf

ANNEX R: VI-ALERT (EMERGENCY ALERT SYSTEM) TEMPLATE ATTACH THIS TO THE FOC REQUEST WORKSHEET

Continuity EAS Message Template/Options

(Select only applicable options)

Situation:

General overview of the situation

Reporting Instructions (where to report, how long, duties):

- ERG Reporting Instructions: ☐ Level III ☐ Level II ☐ Level I
- Non-ERG Reporting Instructions: ☐ Admin Leave ☐ Telework ☐ Other _____
- EOC Reporting Instructions:
☐ Not Activated ☐ Team Standby ☐ Team Activated
- National Watch Center:
- Reconstitution Team:
☐ Not Activated ☐ Standby ☐ Activated
- Reporting Location: ☐ STT ☐ STJ ☐ STX ☐ Other _____
- Reporting Time: _____

Telework Instructions:

- Who Teleworks

Accountability Instructions:

- ERG Accountability – Continuity POCs report component accountability to Operation Division
- General Accountability – components report overall accountability to accountability PPOC (give e-mail and phone contact info) by _____
- Deployment Availability – Components report personnel available for deployment to Response (e-mail _____) by _____. The report will include who is available and their qualification and/or experience. Deployment may be to fill field, TCC or ERG positions.

Time Accounting Instructions (Coordinated w/ Time Keepers):

- All personnel will annotate their Time and Attendance with the appropriate category

General Instructions:

- Safety message
- Be ready to deploy if needed
- An updated message will be sent out NLT _____

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ANNEX S: ACRONYMS

AAR	After Action Report
AWS	Alternate Workday Schedule
CAP	Corrective Action Program
CCP	COOP Communications Plan
CDC	Centers for Disease Control and Prevention
CFR	Code of Federal Regulations
COGCON	Continuity of Government Conditions
COOP	Continuity of Operations
CRC	Continuity Readiness Center
CST	Continuity Support Team
CWS	Compressed Work Schedule
D/A	Department and Agency
DCEMA	District of Columbia Emergency Management Agency
DERG	Devolution Emergency Relocation Group
DHS	Department of Homeland Security
DMART	Document Management and Records Tracking System
EA	External Affairs
EAS	Emergency Alert System
EEO	Equal Employment Opportunity
EO	Executive Order
EOC	Emergency Operations Center
ENS	Emergency Notification System
ERG	Emergency Relocation Group
ERS	Emergency Relocation Site
ESA	Essential Supporting Activities
ESF	Emergency Support Function
FCD	Federal Continuity Directive
FCO	Federal Coordinating Officer
FEMA	Federal Emergency Management Agency
FOC	FEMA Operations Center

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FOIA	Freedom of Information Act
FOUO	For Official Use Only
GTA	Government Travel Authorization
GSA	General Services Administration
HSOC	Homeland Security Operations Center
HSPD	Homeland Security Presidential Directive
HQ	Headquarters
IPAWS	Integrated Public Alert and Warning System
IP	Implementation Plan
IT	Information Technology
LAN	Local Area Network
M&IE	Meals and Incidental Expenses
MEF	Mission Essential Function
MERS	Mobile Emergency Response Support
MOA	Memorandum of Agreement
MOC	MERS Operations Center
MOU	Memorandum of Understanding
MS	Mission Support
MWEOC	Mount Weather Emergency Operations Center
MYSPMP	Multi-Year Strategy and Program Management Plan
NAWAS	National Alert and Warning System
NCC	National Continuity Coordinator
NCP	National Continuity Programs
NCPIP	National Continuity Policy Implementation Plan
NCR	National Capital Region
NDRF	National Disaster Recovery Framework
NEF	National Essential Functions
NEMIS	National Emergency Management Information System
NFIP	National Flood Insurance Program
NIC	National Integration Center
NOC	National Operations Center
NRCC	National Response Coordination Center

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NTAS	National Terrorism Advisory System
OEP	Occupant Emergency Plan
PDD	Presidential Decision Directive
PII	Personal Identifiable Information.
POC	Point of Contact
POV	Privately Owned Vehicle
PPE	Personal Protective Equipment
PRT	Pandemic Response Team
RRS	Readiness Reporting System
RWC	Regional Watch Centers
STATREP	Status and Attendance Report
T&A	Time and Attendance
TT&E	Test, Training, and Exercise
VI-ALERT	Virgin Islands Alert and Notification System
WAN	Wide Area Network
WAWAS	Washington Area Warning and Alerting System

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ANNEX T: GLOSSARY OF TERMS

Activation: The initial process of executing the VITEMA COOP Plan.

Capabilities: Communications, facilities, information, trained personnel, and other assets necessary to conduct MEFs and Supporting Activities.

Component: One of the major subdivisions/subordinate organizations of VITEMA.

Continuity of Government Condition (COGCON): The Continuity of Government Readiness Condition system is a means to establish, measure, and report the readiness of executive branch continuity programs independent of other Federal Government readiness systems.

Continuity of Operations (COOP): An effort within individual executive departments and agencies to ensure that Primary Mission Essential Functions continue to be performed during a wide range of emergencies, including localized acts of nature, accidents, and technological or attack-related emergencies.

COOP Phases: The three levels of operations implemented in response to an emergency or any other situation that disrupts normal operations at VITEMA. The phases are implemented sequentially and include: Activation and Relocation, On-Site Operations, and Reconstitution Operations.

COOP Plan: A plan that provides for the continuity of essential functions of an organization in the event an emergency prevents occupancy of its primary facility. The plan provides the organization with an operational framework for continuing their essential functions when normal operations are disrupted or otherwise cannot be conducted from its primary facility.

COOP Point of Contact (POC): A designated individual from each VITEMA component whose duties involve coordination and implementation of the VITEMA COOP Plan for his/her respective organization. This individual also holds the responsibility for distributing COOP-related materials to the VITEMA component members.

Devolution of Operations Site: The VITEMA facility where the Devolution Response Group (DRG) will conduct VITEMA immediate response essential functions.

Drive-Away Kit: A kit prepared by and specifically for an individual who expects to deploy to an alternate location during an emergency. It contains items needed to minimally meet personal and professional needs during deployment. This kit should not be kept in the individual's office due to no-notice relocations.

Emergency Relocation Group (ERG): Pre-designated VITEMA principals and staff who will move to an emergency relocation site to continue VITEMA essential functions in the event the VITEMA building is threatened or otherwise unavailable.

Emergency Relocation Site (ERS): The alternate VITEMA facility where the VITEMA ERG will deploy to and continue the VITEMA essential functions in the event the VITEMA building is threatened or otherwise unavailable.

Essential Functions: The critical activities that are performed by organizations after a disruption of normal activities. There are three categories of essential functions: National Essential Functions (NEFs), Primary Mission Essential Functions (PMEFs), and Mission Essential Functions (MEFs).

Government Functions: The collective functions of the heads of Executive departments and agencies as defined by statute, regulations, presidential direction, or other legal authority, and the functions of the Legislative and Judicial Branches.

Mission Essential Functions (MEFs): The limited set of department and agency-level government functions that must be continued throughout, or resumed rapidly after, a disruption of normal activities.

National Essential Functions (NEFs): The eight functions and overarching responsibilities of the Federal Government to lead and sustain the Nation that the President and national leadership will focus on to lead and sustain the Nation during Catastrophic Emergency that, therefore, must be supported through continuity capabilities.

National Response Coordination Center (NRCC): An entity of DHS's National Operations Center (NOC) that monitors, on a 24/7 basis or as required, potential or developing incidents and supports the efforts of regional and field components, including coordinating the preparedness of national-level emergency response teams and resources; initiating mission assignments or reimbursable agreements to activate other Federal departments and agencies in coordination with the NOC and Regional Response Coordination Centers; and activating and deploying national-level specialized teams. In addition, the NOC/NRCC resolves Federal resource support conflicts and other implementation issues forwarded by Joint Field Offices.

Non-specific Threat: A threat condition being implemented for a national declaration.

Primary Mission Essential Functions (PMEFs): Those department and agency Mission Essential Functions, validated by the NCC, which must be performed in order to support the performance of NEFs before, during, and in the aftermath of an emergency. PMEFs need to be continuous or resumed within 12 hours after an event and maintained for up to 30 days or until normal operations can be resumed.

Reconstitution Point of Contact (POC): A designated individual from each VITEMA component, whose duties involve working with Facilities Management and updating their component personnel on developments regarding reconstitution operations.

Specific Threat: A threat condition being implemented for a specific Region or sector.

Supporting Activities: Specific activities a Department or Agency must conduct in order to perform its MEFs.

VI-ALERT: VI-ALERT is the Virgin Islands all-hazards alert and notification system, and part of Government of the Virgin Islands' ongoing commitment to provide residents and visitors with information so that they will understand the risks and threats that they may face and know how to respond accordingly.

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Puerto Rico Catastrophic Planning Annex

May 2012



FEMA

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RISK MANAGEMENT SUPPORT MATERIAL

1.0 OVERVIEW

This Attachment contains information for hazard profiling in the risk assessment process, information on: Puerto Rico response structure, demography, economy, and current crime rates; with other areas discussed by core capability within the appropriate appendix. Each was a vital part of the risk management process; shaping the overall risk assessment and determining response strategy used within this plan.

1.1 LOCAL COMMAND AND CONTROL STRUCTURE

Puerto Rico is divided into 11 emergency management zones, with each containing its own Emergency Operations Center (EOC); with each assigned municipality having an EOC like structure as well. The Government of Puerto Rico's EOC is located in San Juan along with primary centers of government and business. There are three primary Continuity of Operations (COOP) sites in the event San Juan is impacted; planned on being co-located with the zone EOCs in Mayaguez, Ponce, Gurabo, Fajardo. Coordination during catastrophic response operations will be through the State Coordinating Officer (SCO) as appointed by the Governor. Coordination and information flow is a continuous vertical structure, running from Government to zone to Municipal EOC and back up in reverse order.

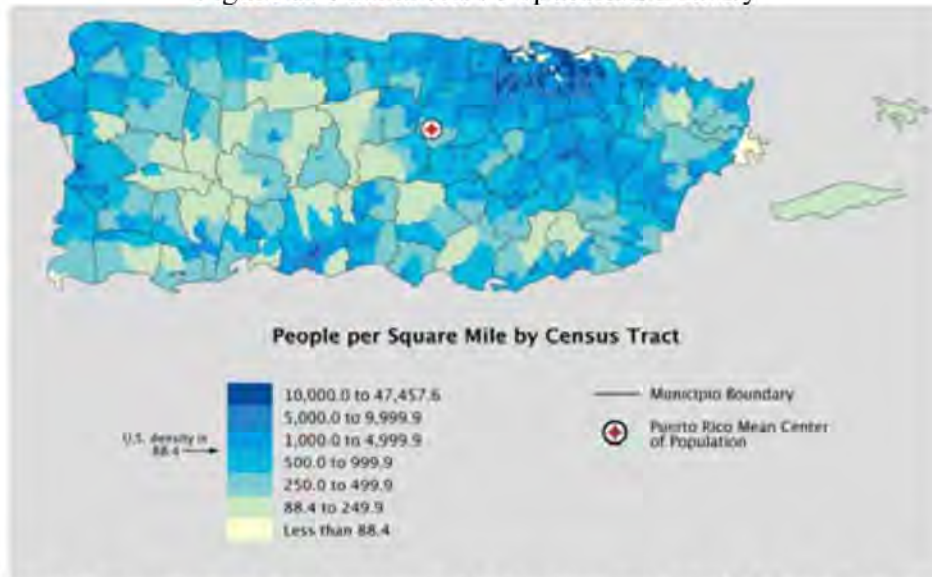
Figure 1: Puerto Rico Emergency Management Agency Zones



2.0 DEMOGRAPHIC AND COMMUNITY PROFILE

Demographically, population densities (**Figure 2**) show that approximately 2.3 million (of the overall 3.7 million) residents live within the 44 coastal municipalities with the heaviest concentrations being in and around San Juan. The island is also visited by over 3.5 million tourists annually, peaking in March with over 290 thousand visitors and dipping in September to approximately 130 thousand; with the main port of entry/visitation being San Juan. Statistically both cruise passenger arrivals and non-resident hotel registrations follow the same tourism pattern with the non-resident hotel registrations numbers being slightly higher.

Figure 2: Puerto Rico Population Density



Analysis of housing density shows an average of 478 houses and 1,088 people per square land mile; reflected in a breakout of Puerto Rico Emergency Management Agency (PREMA) zone¹ as:

Table 1: Puerto Rico Housing Density

PREMA Zone	Population Density (per square land mile)	Housing Density (per square land mile)	% of Urban Housing Units*	% of Rural Housing Units*
1	4705	2119	100	0
2	773	332	89	11
3	943	427	96	4
4	662	323	87	13
5	752	311	90	10
6	641	246	89	11
7	581	255	86	14
8	892	390	94	6
9	2144	931	98	2
10	1418	587	96	4
11	556	308	92	8

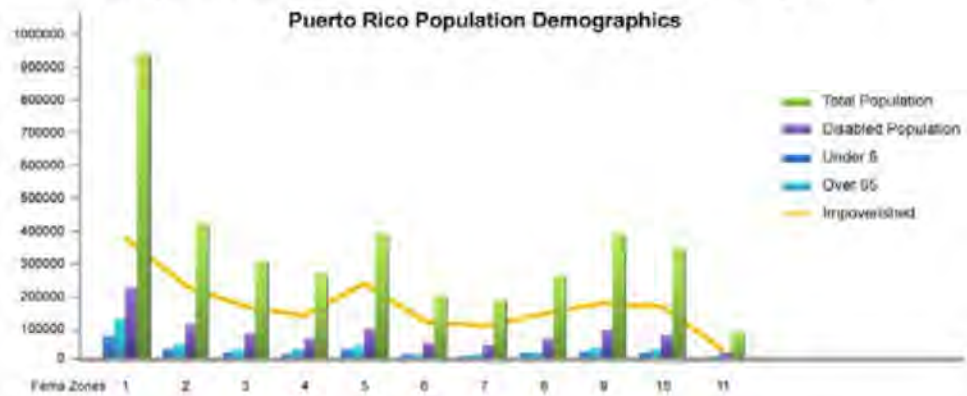
Red text = above national mean

* Based on 2000 Census data

By PREMA zone the demographic breakdown of total population, inclusive of at risk/functional needs categories are:

¹ Base Annex

Graph 1: Puerto Rico Demographic Breakdown by Zone



By zone, similar breakouts are depicted in the following figures:

Table 2: Population Demographic by Zone and Municipality

Municipality	Total Population	Disabled Population	Under 65	Over 65	Impoverished
Zone 1					
Bayamón	208116	49376	16319	27709	78191
Cataño	28140	8092	2490	2932	15036
Dorado	38165	8887	2735	3191	14083
Guaynabo	97924	19841	7069	12451	31116
San Juan	395326	106151	30660	64255	177225
Toa Alta	74066	13143	6050	4211	24932
Toa Baja	89609	20942	7645	8713	37258
Zone 2					
Arecibo	96440	27747	7215	12727	50967
Barceloneta	24816	6178	1932	2438	12500
Camuy	35159	9126	2827	3657	18292
Florida	12680	3261	1075	1150	7049
Hatillo	41953	9820	3014	4039	21720
Lares	30753	8104	2616	3929	22542
Manatí	44113	12431	3769	5006	23476
Utüado	33149	9850	2588	4191	22474
Vega Alta	39951	9506	3103	3531	19448
Vega Baja	59662	16644	5204	6318	31336
Zone 3					
Aguada	41959	9419	3234	3652	24931
Aguadilla	60949	16370	4739	7534	35577
Añasco	29261	8001	2140	2922	14628
Isabela	45631	10716	3242	5241	24666
Moca	40109	9278	3414	3486	23302
Quebradillas	25919	7606	2038	2511	14099
Rincón	15200	3737	1091	1845	8314
San Sebastián	42430	12713	3272	5576	25417
Zone 4					
Cabo Rojo	50917	11368	3454	6466	22095
Hormigueros	17250	4146	1082	2377	6380
Lajas	25753	6317	1921	3350	14837
Las Marías	9881	2890	829	1071	7245
Maricao	6276	1574	530	598	4385
Mayagüez	89080	23217	6310	13344	51383
Sabana Grande	25265	7108	2140	2998	13486
San Germán	35527	9645	2620	4874	18404
Zone 5					
Adjuntas	19483	4730	1450	1996	12520
Guánica	19427	5567	1729	2463	13943
Guayanilla	21581	5303	1781	2484	13151
Jayuya	16642	4366	1483	1524	10876
Juana Díaz	50747	11151	4422	4487	28651
Peñuelas	24282	6872	2321	2209	15951
Ponce	166327	39883	14386	21650	97526
Villalba	26073	6485	2525	2269	17446
Yauco	42043	10157	3477	5013	26253

Municipality	Total Population	Disabled Population	Under 65	Over 65	Impoverished
Zone 6					
Barranquitas	30318	7264	2600	2340	17721
Ciales	18782	6018	1634	1996	12501
Comerio	20778	6152	1524	1865	12321
Corozal	37142	10337	2971	3351	21457
Morovis	32610	6827	2820	2420	17829
Naranjito	30402	8539	2428	2689	16488
Orocovis	23423	6817	2133	2246	16214
Zone 7					
Arroyo	19575	5800	1522	1923	10533
Coamo	40512	8616	3228	3922	21092
Guayama	45362	11444	3660	4337	23391
Patillas	19277	5578	1475	2250	11003
Salinas	31078	7743	2756	3158	18108
Santa Isabel	23274	5353	2129	2008	12436
Zone 8					
Humacao	58466	15371	4391	6316	27865
Juncos	40290	10185	3088	3540	19721
Las Piedras	38675	9145	2717	3117	16311
Maunabo	12225	3283	916	1398	7530
Naguabo	26720	7155	1793	2648	13302
San Lorenzo	41058	10368	3276	4162	22179
Yabucoa	37941	10782	3159	3705	21389
Zone 9					
Canóvanas	47648	11202	3690	3759	23488
Carolina	176762	43273	13793	21109	62708
Loíza	30060	7715	2849	2307	19425
Río Grande	54304	13054	4270	4949	24401
Trujillo Alto	74842	16091	6152	6795	25748
Zone 10					
Agua Buenas	28659	8493	2290	2877	15010
Aibonito	25900	6556	1957	2841	13723
Caguas	142893	32454	10734	16089	58589
Cayey	48119	12557	3594	5428	23827
Cidra	43480	10538	3423	3661	20051
Guabo	45369	8978	3068	3201	15836
Zone 11					
Ceiba	13631	3612	1525	1565	6950
Culebra	1818	463	138	237	691
Fajardo	36993	11260	3424	5161	17140
Luquillo	20068	5449	1627	2116	10245
Vieques	9301	2484	711	1263	5882

PUERTO RICO CATASTROPHIC PLANNING ANNEX
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Analysis of crimes committed in Puerto Rico by type and Puerto Rico police region (**Figure 3**) shows an overall decrease in non-violent crimes, but, as indicated in the base Annex, a significant increase in the homicide rate, reaching 26.4 per 100 thousand people, exceeding the national rate of 4.8 per 100 thousand.

Figure 3: Puerto Rico Police Department Regions



Compilation of types of crimes, by Puerto Rico police region, is depicted in **Figure 4** below:

Figure 4: Puerto Rico Crime Statistics

PUERTO RICO POLICE TYPE I CRIMES COMMITTED IN PUERTO RICO 2010 AND 2011														
Preliminary Data January 1 thru February 28, 2011														
	SAN JUAN	ARECIBO	PONCE	HUMACAO	MAYAGUEZ	CAGUAS	BAYAMON	CAROLINA	GUAYAMA	AGUADILLA	UTUADO	FAJARDO	ALBORADA	TOTAL
TOTAL	2011 1684	549	792	449	513	516	1853	929	451	400	190	365	337	9030
	2010 1800	551	881	511	631	637	2507	911	551	465	373	355	390	10563
	change -116	-2	-89	-62	-118	-119	-654	-18	-100	-65	-183	10	-53	-1533
	% -6.4%	-0.4%	-10.1%	-12.1%	-18.7%	-18.7%	-26.1%	2.0%	-18.1%	-14.0%	-49.1%	2.8%	-13.6%	-14.5%
Murder, Manslaughter	2011 40	13	25	7	8	19	47	20	5	2	2	7	6	201
	2010 30	8	24	5	2	12	26	17	11	2	0	10	8	155
	change 10	5	1	2	6	7	21	3	-6	0	2	-3	-2	46
	% 33.3%	62.5%	4.2%	40.0%	300.0%	56.3%	80.8%	17.6%	-54.5%	0.0%	0.0%	-30.0%	-25.0%	29.7%
Rape by Force	2011 2	0	0	0	0	0	0	0	0	0	0	0	0	3
	2010 1	0	1	2	0	1	1	0	0	1	0	0	1	8
	change 1	0	-1	-2	0	-1	-1	0	0	-1	0	0	-1	-5
	% 100.0%	0.0%	-100.0%	-100.0%	0.0%	-100.0%	-100.0%	0.0%	0.0%	-100.0%	0.0%	0.0%	-100.0%	-62.5%
Robbery	2011 287	36	79	64	19	137	232	161	46	18	9	38	15	1141
	2010 285	43	89	49	39	79	359	142	20	23	18	42	18	1206
	change 2	-7	-10	15	-20	58	-127	19	26	-5	-9	-4	-3	-65
	% 0.7%	-16.3%	-11.2%	30.6%	-51.3%	73.4%	-35.4%	13.4%	130.0%	-21.7%	-50.0%	-9.5%	-16.7%	-5.4%
Aggravated Assault	2011 58	13	64	32	14	44	59	42	31	17	8	28	32	442
	2010 59	24	66	31	15	43	90	41	34	24	10	24	32	493
	change -1	-11	-2	1	-1	1	-31	1	-3	-7	-2	4	0	-51
	% -1.7%	-45.8%	-3.0%	3.2%	-6.7%	2.3%	-34.4%	2.4%	-8.8%	-29.2%	-20.0%	16.7%	0.0%	-10.3%
Burglary	2011 282	276	243	174	191	144	408	188	134	197	95	123	101	2556
	2010 246	225	209	236	230	268	526	221	162	220	168	130	160	3001
	change 36	51	34	-62	-39	-124	-118	-33	-28	-23	-73	-7	-59	-445
	% 14.6%	22.7%	16.3%	-26.3%	-17.0%	-46.3%	-22.4%	-14.9%	-17.3%	-10.5%	-43.5%	-5.4%	-36.9%	-14.8%
Illegal Appropriation (Larceny Theft)	2011 812	133	349	169	248	118	778	459	211	152	74	154	152	3808
	2010 932	107	422	181	307	171	1139	415	308	162	170	136	149	4619
	change -120	26	-73	-12	-61	-52	-361	44	-97	30	-96	18	3	-811
	% -12.9%	24.3%	-17.3%	-6.6%	-19.9%	-30.4%	-31.7%	10.6%	-31.5%	-16.5%	-56.5%	13.2%	2.0%	-17.6%
Motor Vehicle Theft	2011 203	78	32	3	35	55	329	59	24	14	2	14	31	879
	2010 247	144	70	7	38	63	366	75	16	13	7	13	22	1081
	change -44	-66	-38	-4	-3	-8	-37	-16	8	1	-5	1	9	-202
	% -17.8%	-45.8%	-54.3%	-57.1%	-7.9%	-12.7%	-10.1%	-21.3%	50.0%	7.7%	-71.4%	7.7%	40.9%	-18.7%

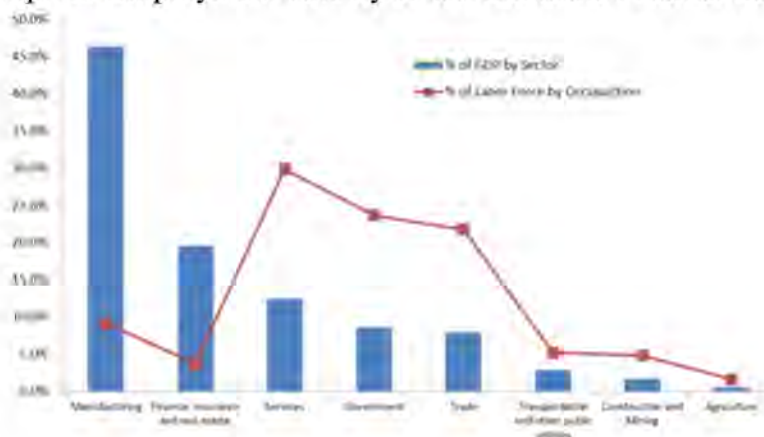
3.0 ECONOMIC PROFILE²

Economic analysis is divided into two parts: household income and Gross Domestic Product (GDP). Household income analysis reflects that the average income, per capita, is \$8,411.51, with 53 percent of the total population below established United States poverty levels. Further household sources of income, other than earnings include, 31 percent of households receive social security, 18 percent of households receive some form of public assistance, and 10 percent of households receive retirement income. The overall unemployment rate for Puerto Rico is 19 percent.

The GDP in 2010 was \$96.3 billion a one percent increase over the previous year. The primary sources of income, as measured by Commonwealth GDP, is manufacturing, financial (finance, insurance and real estate), and services. The manufacturing sector makes up 46.4 percent of the country's total net income which includes five main sectors: chemical and allied products (pharmaceuticals and biotechnology), computers and electronic products, food and kindred products, beverage and tobacco products, and electrical equipment (appliances and components). Puerto Rico exported \$61.7 billion in 2010 with 68.1 percent of all exports occurring with the United States.

Over the last ten years, the Puerto Rican economy has experienced a structural change with a significant reduction of labor-intensive industries to the development of capital-intensive and knowledge based industries. This is reflective (see Graph 3) in the disparity of GDP sector growths compared to the numbers of the labor force employed by each sector.

Graph 2: Employment rate by Gross Domestic Product Sector



Additionally, the municipalities contributing to the overall GDP are concentrated in the north. Table 3 represents the top producing municipalities by sectors³.

² Puerto Rico Development Bank

³ U.S. Census Bureau Tables ??? 2010.

Table 3: Top producing Municipality by Gross Domestic Product Sector

Sector	# of employed	% of Sector	Sector	# of employed	% of Sector
Manufacturing			Agriculture, forestry, fishing and hunting, and mining		
San Juan	6012	5%	Lares	695	5%
Finance and insurance, and real estate and rental and leasing			Trade		
San Juan	12313	20%	San Juan	22588	12%
Bayamón	5188	8%	Bayamón	14201	8%
Carolina	5044	8%	Carolina	11101	6%
Guaynabo	3837	6%	Caguas	8907	5%
Caguas	3150	5%	Ponce	8473	5%
Services			Transportation and other public utilities		
San Juan	58013	14%	San Juan	25384	18%
Bayamón	25321	6%	Carolina	10852	8%
Carolina	24205	6%	Bayamón	10223	7%
Ponce	19622	5%	Guaynabo	6695	5%
Government			Construction		
San Juan	15801	12%	San Juan	9571	11%
Bayamón	9353	7%	Bayamón	4285	5%
Carolina	9186	7%			

4.0 PUERTO RICO LEGAL FRAMEWORK

4.1 CONGRESSIONAL RESEARCH SERVICE REPORT FOR CONGRESS⁴

The Congressional Research Service (CRS) report profiles the emergency management and homeland security statutory authority of the Government of Puerto Rico. It identifies the significant elements of Puerto Rico statutes, generally as codified. The report summarizes the framework as follows:

4.1.A ENTITIES WITH KEY RESPONSIBILITIES

Governor: the governor is authorized to call out the militia in response to a serious disturbance of the public peace and may proclaim martial law in case of rebellion, invasion, or imminent danger. The legislative assembly is to meet on its own initiative to ratify or revoke such a proclamation (Constitution of the Commonwealth of Puerto Rico, Article IV, Section 4).

The governor may acquire, through eminent domain, any real or personal property deemed useful or necessary during a disaster, including land, buildings, vehicles, communications equipment, food, clothing, equipment, medicines and other basic commodities (Laws of Puerto Rico, Title 25, Subtitle 1, Part I, Chap. 9B, §172(o)).

Emergency Management and Disaster Administration (EMDA): The statute created EMDA as part of the Puerto Rico Public Safety and Protection Commission (PSPC) (Laws of Puerto Rico, Title 25, Subtitle 1., Part I, Chap. 9B, § 172b).

Emergency Management Director: The director is appointed by the commissioner of the PSPC, in consultation with the governor (Laws of Puerto Rico, Title 25, Subtitle 1., Part I, Chap. 9B, §172d). The director develops the commonwealth response plan and coordinates related action; prepares the budget; establishes working or reciprocity agreements with other commonwealth jurisdictions; establishes an educational program; executes contracts; and adopts regulations and procedures. The director is to charge fees for seminars, training sessions, conferences,

⁴ U.S. Congressional Research Service, Puerto Rico Emergency Management and Homeland Security Statutory Authorities Summarized, Order Code RS21926, September 3, 2004, Bea, Keith, L. Cheryl Runyon and Kae M. Warnock.

workshops, or courses on emergency and disaster management; establish regional offices throughout the commonwealth; and organize and train groups and individuals for emergency management. The director is to acquire by purchase, real and personal property, equipment, materials, services and supplies and solicit and accept funds and donations from any commonwealth or federal entity or others in or outside of the commonwealth. The director plans for the mitigation of natural as well as technological risks and presides over the Interagency Risk Mitigation Committee. The director acts as mitigation officer for the commonwealth and appoints an alternate mitigation officer and deputy director (Laws of Puerto Rico, Title 25, Subtitle 1, Part I., Chap. 9B, §172e-f). The director determines which agencies are part of the commonwealth response plan and establishes the Emergency Management and Disaster Administration office to develop and implement internal plans (Laws of Puerto Rico, Title 25, Subtitle 1, Part I., Chap. 9B, §172h).

Interagency coordinators: The director is to appoint an interagency coordinator to act as liaison and to coordinate actions and exercise decision-making authority over funds and resources. Coordinators must prepare an updated recovery plan that includes actions, measures and priorities to return the commonwealth to normal conditions as soon as possible, in coordination with the commonwealth response plan (Laws of Puerto Rico, Title 25, Subtitle 1, Part I., Chap. 9B, §172h).

Interagency Natural and Technological Risk Management Committee: See “Hazard Mitigation.”

Municipal emergency management and disaster administration offices: Municipalities are authorized to establish municipal offices responsible for developing and implementing the emergency management and disaster administration plans. Municipal directors are appointed by the mayor and approved by the municipal assembly, and undertake the initial response to emergencies and disasters, as well as mitigation, preparation, and recovery efforts required in the municipality (Laws of Puerto Rico, Title 25, Subtitle 1, Part I., Chap. 9B, §172I).

Safety and Public Protection Commission: The statute establishes the adjutant general as a member of the commission who coordinates the national guard in special operations against crimes and emergencies caused by natural disasters or by man (Laws of Puerto Rico, Title 3, Appendix V § I (2002) §I-II). The statute established the position of commissioner with the duty, among others, to develop plans, programs and services regarding the protection of the citizenry in cases of fire and emergencies caused by natural disasters or by man (Laws of Puerto Rico, Title 3, Appendix V §IV).

Municipal governments: Each municipality must establish programs and adopt measures that provide aid in emergencies or natural disasters (Laws of Puerto Rico, Title 21, Subtitle 6, Chap. 203, §4054(f)).

Mayors: Mayors are authorized to proclaim a state of emergency by executive order and identify measures to be taken in cases of natural disaster, catastrophic accident, and situations which place life, health, safety, peace of mind and welfare of the citizenry in imminent danger or significantly interrupt community services. When the governor of Puerto Rico declares an emergency, the mayor is relieved of the authority invoked in the proclamation (Laws of Puerto Rico, Title 21, Subtitle 6, Chap. 205, §4109(u)).

Interagency Natural and Technological Risk Management Committee: The committee is responsible for preparing and implementing the commonwealth mitigation plan; establishing priorities; assessing the nature of damages caused by an emergency or disaster; and recommending mitigation actions to curtail future damages. Commonwealth agencies are to appoint directors to participate as members of the committee and to coordinate and prepare mitigation plans and activities in their respective agencies (Laws of Puerto Rico, Title 25, Subtitle 1, Part I., Chap. 9B, §172I).

4.1.B PREPAREDNESS

See “Entities with Key Responsibilities,” especially *Emergency Management Director*, *Interagency coordinators*, and *Municipal emergency management and disaster administration offices*.

4.1.C DECLARATION PROCEDURES

During a presidentially declared disaster, emergency and disaster plans and programs of the commonwealth are to be coordinated with the U.S. Government. The EMDA director serves as the liaison between the commonwealth and the federal government. When the intervention of the EMDA is pertinent, the governor decrees a state of disaster through executive order. The director is responsible for the coordination, implementation and administration of disaster management plans and programs (Laws of Puerto Rico, Title 25, Subtitle 1., Part I., Chap. 9B, §172g).

The governor may decree that a state of emergency or disaster exists, may request federal assistance from President of United States, and is authorized to order, amend or revoke regulations, and issue, amend or cancel those orders. The governor may order the removal of rubble and debris, acquire through purchase, donation, or eminent domain, any real or personal property, and recommend that the commissioner request total or partial activation of resources available to the military forces of the commonwealth (Laws of Puerto Rico, Title 25, Subtitle 1, Part I., Chap. 9B, §172m).

4.1.D TYPES OF ASSISTANCE

The Department of Housing works with commonwealth agencies to administer and maintain temporary housing for emergency or disaster victims. The primary responsibility for maintaining and operating temporary housing rests with the secretary of housing (Laws of Puerto Rico, Title 25, Subtitle 1, Part I., Chap. 9B, §172j).

The director of emergency management appoints a search and rescue coordinator to develop programs, including the Search and Rescue Volunteer Service. The Civil Defense Corps of Volunteers is included in this function (Laws of Puerto Rico, Title 25, Subtitle 1, Part I., Chap. 9B, §172k).

Using any available resources, the governor may order the removal of rubble or debris that could affect public health, private land, or bodies of water, with prior written approval of owners of private property. Property owners must hold the governor and the governor’s agents harmless from damages caused to property and further agree to compensate the commonwealth government if a claim arises as result of clearance or removal of debris (Laws of Puerto Rico, Title 25, Subtitle 1, Part I., Chap. 9B, §172n).

Individuals are allowed deductions for losses sustained during the taxable year due to earthquakes, hurricanes, storms, tropical depressions and floods in a designated disaster area.

Covered losses include automobiles, furniture, and household goods (excluding jewelry or cash) not compensated for by insurance. Deductions are limited to \$5,000 dollars per individual or \$2,500 per married individual filing a separate return (Laws of Puerto Rico, Title 13, Subtitle 14, Part III, Chap. 853, Subchapter B, §8423(aa)(2)(G)).

A municipality may assign or donate public funds to persons with real and specific needs concerning natural disasters and other conditions. Municipal officers must verify that the person is indigent and that municipal function, activities and operations are neither interrupted nor adversely affected. The assignment of funds must be approved by the municipal assembly (Laws of Puerto Rico, Title 21, Subtitle 6, Chap. 219, 21 §4464a).

4.1.E MUTUAL AID

The Emergency Management Assistance Compact is codified (Laws of Puerto Rico, Title 1, Chap. 31, §621-633).

The governor may order the municipal police into active service with the commonwealth police due to an emergency such as natural disaster, or to protect public order and safety. Such activations cannot exceed 15 calendar days unless authorized by the municipal assembly and signed by the mayor (Laws of Puerto Rico, Title 21, Subtitle 3, Chap. 97, §1076).

4.1.F FUNDING

Regular expenses for the operation of the EMDA are consigned annually in the general expenses budget of the commonwealth government. Special expenses incurred during a state of emergency or disaster are reimbursed from the emergency fund (Laws of Puerto Rico, Title 25, Subtitle 1, Part I, Chap. 9B, §172s).

The statute created a trust fund under custody of the Secretary of the Treasury, known as the “emergency fund,” which is capitalized by specified amounts derived from total net revenues. The governor and the director of the Office of Management and Budget may order sums greater than that fixed by law if deemed convenient. The balance within the emergency fund cannot exceed 5% of funds appropriated in the Joint Budget Resolution for the year the resources are to be covered. The fund is to be used to meet unexpected and unforeseen public needs caused by natural disasters, wars, and plagues, to protect lives and property of the people and to aid the United States and other countries. If sent outside the Commonwealth, aid is limited to \$25,000 (Laws of Puerto Rico, Title 3, Chapter 21, §457-464).

4.1.G HAZARD MITIGATION

The intent of the legislature in creating the emergency fund is to, in part, enable the commonwealth to “avoid” calamities. See “Funding,” (Laws of Puerto Rico, Title 3, Chap. 21, § 459).

See also “Entities with Key Responsibilities,” — *Interagency Natural and Technological Risk Management Committee*.

4.1.H CONTINUITY OF GOVERNMENT OPERATIONS

In case of invasion, rebellion, epidemic or any other event that causes a state of emergency, the governor may call the legislative assembly to meet in a place other than the capitol, subject to the approval or disapproval of the legislative assembly. The governor may, during the period of emergency, order the government, its agencies and instrumentalities to be moved temporarily to

a place other than the seat of the government (Constitution of the Commonwealth of Puerto Rico, Article VI, Section 17).

Emergency Succession Act: The statute provides a line of succession for departments and agencies within the executive branch for the resumption of government temporarily suspended due to an attack. When organizations do not provide for the appropriate number of successors the succession plan must guarantee the continuity of essential services. The governor determines the line of succession for secretaries of the executive branch of government. Emergency successors must take the oath of office and may only exercise authority when Puerto Rico is attacked (Laws of Puerto Rico, Title 25, Subtitle 1, Part I., Chap. 9, §161-168).

4.1.I OTHER

The statute provides for leave for voluntary service in the Civil Defense Corps in case of disasters (Laws of Puerto Rico, Title 3, Chap. 51, Subchapter V, §1355(4)). The statute authorizes municipal employees to receive leave with or without pay to render volunteer services to the Civil Defense Corps and other organizations that render emergency services in case of disasters (Laws of Puerto Rico, Title 21, Subtitle 6, Chap. 223, §4568(g)).

The owner of real property used as a shelter to house persons during an emergency or disaster, or during a drill are held harmless from damages from persons placed or housed in the shelter, and from employees or officials. The commonwealth government and its employees and municipalities cannot be held liable (Laws of Puerto Rico, Title 25, Subtitle 1, Part I., Chap. 9B, §172p).

4.2 GAPS IN EXISTING LEGAL FRAMEWORK IN PUERTO RICO⁵

New statutes, laws, and regulations are needed before a catastrophic plan can be effectively implemented. The following observations are some considerations for the elaboration of disaster related language in policy and legal documentation. The Government of Puerto Rico should where possible have signed agreements, inter-state agreements, and streamline Executive Orders to facilitate disaster issues/response. Additionally, further elaboration of all existing disaster management laws is needed and specific attention should be placed on populations in State run facilities. Finally, the creation of a depository is needed to collect (1) all laws, Executive Orders and regulations developed in the Commonwealth and are Puerto Rico specific, (2) for all Federal laws, Presidential Directives, and (3) regulations as well as copies of the *Federal Register* that address topics related to disasters.

5.0 ASSET INVENTORY

Core capabilities are the essential elements of response that address the highest priority essential functions necessary for both saving and sustaining lives, and stabilizing the situation. Below is an overview of assets available to support each.

Situational Assessment

Puerto Rico's ability to achieve situational awareness is achieved through the implementation of an in-depth and robust plan for such an event. The plan is achievable utilizing current assets that

⁵ Joseph O. Prewitt Diaz and Roberto Aponte Toro, "Study of existing Legal framework in Puerto Rico to support the response to a catastrophic event following the "Rule of Law"," (Center on Law, Natural and Man Made Disasters, University of Puerto Rico-School of Law, 2012).

include: rotary/fixed wing aircraft that is supported by the by Puerto Rico Police Department (PRPD) and National Guard; as well as the United States Coast Guard (USCG) and Immigration Custom Enforcement (ICE), remote sensors such as off-shore buoy's and on-shore seismic monitors, and geo-spatial analysis to conduct post-event assessments. This is supplemented by post-event assessments by citizen and staff informal reporting thorough media, Enhance 911 (E911), and other informal channels. Additionally, information is gathered through a combination of various remote monitoring systems (tide gauges, seismic sensors, deep ocean tsunami detection buoys, overflow sensors on dams, and rain/stress flow gauges) monitored by a small staff (5-8) located at Mayaguez.

Planning

Supported by PREMA, the organizational structure is based on a holistic approach necessary in facilitating planning activities before, during and after an emergency or disaster. Comprised of: Office of the Director; Office Assistant Director; Administration; Centre for Information Systems; Division of Finance and Budget; General Services Division; Press and Public Relations Office; Division of Human Resources; Preparation Division; Mitigation Division; Response Division; Recovery Division; and the Regional (zone) offices. With the exception of the Regional offices, all PREMA assets are centric to San Juan. Tasks within PREMA prevue are:

- Educate all citizens on natural and technological emergencies and those caused by man.
- Reduce deaths or damage directly caused by these events, compared to the losses that have occurred in the past five years.
- To ensure a rapid and effective response in emergencies or disasters.
- Ensure the implementation of the phase of recovery in areas affected by emergencies or disasters.
- Develop and promote vigorously an effective plan for mitigation to reduce natural and technological risks.
- Promote and protect the health, safety and welfare of the urban train users.
- Establish and regulate the recruitment and training of the Volunteer Corps program to support the State Plan for the handling of emergencies.
- Develop a modern, agile and leading edge technology management structure.

Public Information and Warning

Infrastructure is inclusive of Emergency Alert Systems (EAS), National Oceanic and Atmospheric Administration (NOAA) weather, and maritime warning systems. The information provides the foundation for information that will be provided to the public, the local municipality; to the PREMA EOC. Information dissemination is primarily initiated at the PREMA EOC, disseminated to the zones, and then the municipalities; specifically activation of the EAS for broadcasting of island wide alerts.

Environmental Response/Health and Safety

The Government of Puerto Rico's daily management of environmental health and safety incidents is coordinated at the local level by Environmental Protection Agency (EPA) offices located on the island of Puerto Rico. The Puerto Rico Environmental Quality Board (PR EQB) is the lead agency representing Puerto Rico for coordinating and providing technical assistance on all hazardous materials incidents. The Department of Natural Resources also plays a major role in oil spills. The Puerto Rico Fire Department (PRFD) has four hazardous materials (HAZMAT) response vehicles and an emergency response team capable of performing emergency Level "A"

entry. The Government of Puerto Rico also has policies and capabilities in place to respond to environmental health and safety incidents on a daily basis.

Operational Communications

The Government of Puerto Rico has the capability to provide critical communications, utilizing existing interoperable systems and procedures. They utilize a combination of fixed and mobile assets (for normal day-to-day emergency response operations [local municipalities, PRPD, and PREMA]). Resources: Government of Puerto Rico and Federal contingency stockpiles are strategically dispersed.

- Static systems/networks consist of one (1) PREMA very high frequency (VHF), three (3) PRPD (two (2) 800 megahertz (MHz) and one (1) VHF), one (1) Puerto Rico Emergency Medical Service (PREMS) ultra high frequency (UHF), one (1) Puerto Rico Department of Transportation and Public Works (DTPW) VHF, one (1) Puerto Rico Electric Power Authority (PREPA) 800 MHz enhance digital access communication system (EDACS), one (1) Puerto Rico Aqueduct and Sewer Authority (PRASA) VHF, two (2) public safety answering points (PSAP) 911 relays (24 hour primary and normal duty hour backup); municipality networks containing standalone radio systems (VHF, UHF, and 800 MHz); public switched telephone networks; inter/intranet based systems (web, email, and voice-over-internet protocol [VOIP]); satellite data/phones (17 with PRPD and 11 with PREMA (one (1) in each zone).
- Mobile/field deployable assets include: 25 vehicles providing: MHz, VHF, high frequency (HF), and UHF broadcasting; secure/non-secure voice, data, and fax; on-site interoperability; landlines, cell phones, and satellite phones; inter-/intra-net access; mobile/portable UHF repeaters; and microwave transmission; three aircraft possessing VHF aircraft radios; fourteen portable communication gateways, providing on-site interoperability, cross platform for digital/analog, trunked, and amplitude modulation (AM)/frequency modulation (FM) broadcasts, tactical repeaters; three interoperable communications systems (cellular phones, portable land mobile radios (LMR) (VHF, UHF, and 800 MHz, laptop computers, evolution-data optimized [EVDO] data cards, video teleconferencing, inter-/intra-net connectivity, VOIP telephone, public switched telephone network [PSTN], fax/copier/scanner/printers, three diesel generators, and two environmental control units); one very small aperture terminal (VSAT) system (satellite communications linkage); and assorted portable equipment (1152 UHF portable radios, 25 UHF mobile radios, 193 VHF portable radios, four UHF portable repeaters (40 watt), one VHF portable repeater, four HF radios, two portable radio towers (20'), and 37 portable satellite telephones).
- One command vehicle possessing: Global Star satellite telephone and laptop computer with an air card. One NOMAD© kit with: One laptop computer with an air card and broadband global area network (BGAN) terminal. Eighty four portable generators (9.6 kilovolt (kV) - 800 kV), seven Global Star satellite telephones, and VSAT satellite voice and data system (includes 24 telephones and 24 data ports).

Mass Search and Rescue Operations

Trained civilian and professional searchers, who are already members of an organized search and rescue team recognized by the government. The Government of Puerto Rico currently has 11 ground search and rescue (SAR) teams with 20 personnel each. These teams can support both

inland SAR and urban SAR. Puerto Rico has a combination of boats (one 45 foot response boat medium, three 33 foot special purpose craft – law enforcement (SPC-LE), two 25 foot Homeland Security boats and a series of cutters) fixed wing and rotary wing (4 MH-65C Dolphin helicopters) assets exist with the USCG; PRPD, PRFD, and the Puerto Rico National Guard including: USCG Air Station Borinquen, located at Rafael Hernandez International Airport, Aguadilla.

Critical Transportation

The Government of Puerto Rico has 18 airports, 32 heliports, two (2) seaplane bases, 10 seaports, five (5) ferry terminals, and roadway systems inclusive of nine (9) federally funded highways. In support of response actions, contracts are in place (including operators) for school buses, motor coaches, and public transit buses. With air and marine support provided by PRPD and National Guard; as well as the USCG and ICE; Puerto Rico National Guard has equipment capable of operating in all types of terrain.

Operational Coordination

Information sharing systems in place consists of various types of technologies that includes a variety of LMR systems, satellite, telephonic, fax, email, geographic information systems (GIS), and video tele-conference (VTC) technology, to facilitate information sharing and pre-established protocols and procedures to permit communication and coordination from the local municipality to the PREMA EOC, to FEMA Region II Caribbean Area Division (CAD) (which is co-located at PREMA, to enable the establishment of the Unified Command Group[UCG]), to FEMA Region II Regional Response Coordination Center (RRCC), and ultimately to FEMA National Response Coordination Center (NRCC). Command, control and coordination is accomplished through compliance with National Incident Management System (NIMS) and Incident Command System (ICS) standards such as ICS forms (201 and 209) provide the documentation medium for the decision making for Command, control, and coordination in accordance with Incident Action Planning (IAP).

Fatality Management Services

The daily management of fatalities is coordinated at the municipality level by local coroners/medical examiners and funeral homes and two United States Army Reserve Mortuary Affairs Units (311th and the 246th). The Institute for Forensic Sciences (IFS) in Puerto Rico is responsible for conducting mass fatality operations. Puerto Rico Department of Health (PR DOH) has established a threshold of 75 fatalities in order for a request for Federal mass fatality support.

Mass Care Services

The Government of Puerto Rico has identified 372 facilities/shelters (96,726 post capacity personnel accommodations) to handle mass care services and 11 PREMA zone distribution points capable of distributing 64 thousand gallons of water and food supplies by 75 Puerto Rico housing staff trained/certified in National Shelter System (NSS) level '2' and '3'. Predominately most of the shelter space (90 percent) is normally used for educational purposes in schools throughout Puerto Rico. The government also has mutual aid agreements in place with Sams/Wal-Mart capable of providing 200 thousand gallons of water and 100 thousand pounds of ice daily.

Public Health and Medical Services

The Government of Puerto Rico has resources in place to conduct triage and provide emergency-level health and medical treatment on a daily basis. This is achieved by 2600 Medical Reserve Corp Members (1000 medical, 1600 non-medical), 5,587 in-patient beds including the capability of providing care for 239 neo-natal intensive care patients; 107 neo-natal ventilated beds; and 345 critical care beds throughout the island. The Government also has pre-hospital care capabilities that include 1,162 ambulances. Forty-seven of the hospitals in Puerto Rico have generators with the capability to run for up to five days. Fifty-eight of the hospitals possess enough oxygen (O₂) (12 "D" cylinders of O₂ each) for up to five days. Eighteen of the hospitals have enough blood supplies for up to five days. The government also has stockpiles of equipment and pharmaceutical caches that consist of two (2) DMAT basic loads, four (4) DMAT basic load resupplies, one (1) DMAT team, four (4) pharmaceutical caches (two [2] pharmaceutical caches and two [2] Federal Medical Stations [FMS] pharmaceutical), four (4) lab caches, two (2) FMS 250 bed sets and four (4) Strike Team caches with resupply.

On-Scene Security and Protection

The Government of Puerto Rico has a comprehensive emergency response program for normal daily operations. The Government's robust police force of over 17 thousand and the Puerto Rico National Guard maintains security and protection on a daily basis. The police department has four wheel drive capable vehicles and the Puerto Rico National Guard also has equipment capable of operating in all terrain. The Government of Puerto Rico is also supported by air and maritime provided by the by PRPD and Puerto Rico National Guard; as well as the USCG and ICE.

Public and Private Services and Resources

The Government of Puerto Rico has the ability and policies in place to provide essential public and private services and resources to the population in times of crisis. The American Red Cross (ARC), Salvation Army and Puerto Rico Caritas are just a few, that are capable of providing food, shelter and crisis counseling. Wal-Mart and Sam's Club are private sector assets that will provide supplies and equipment.

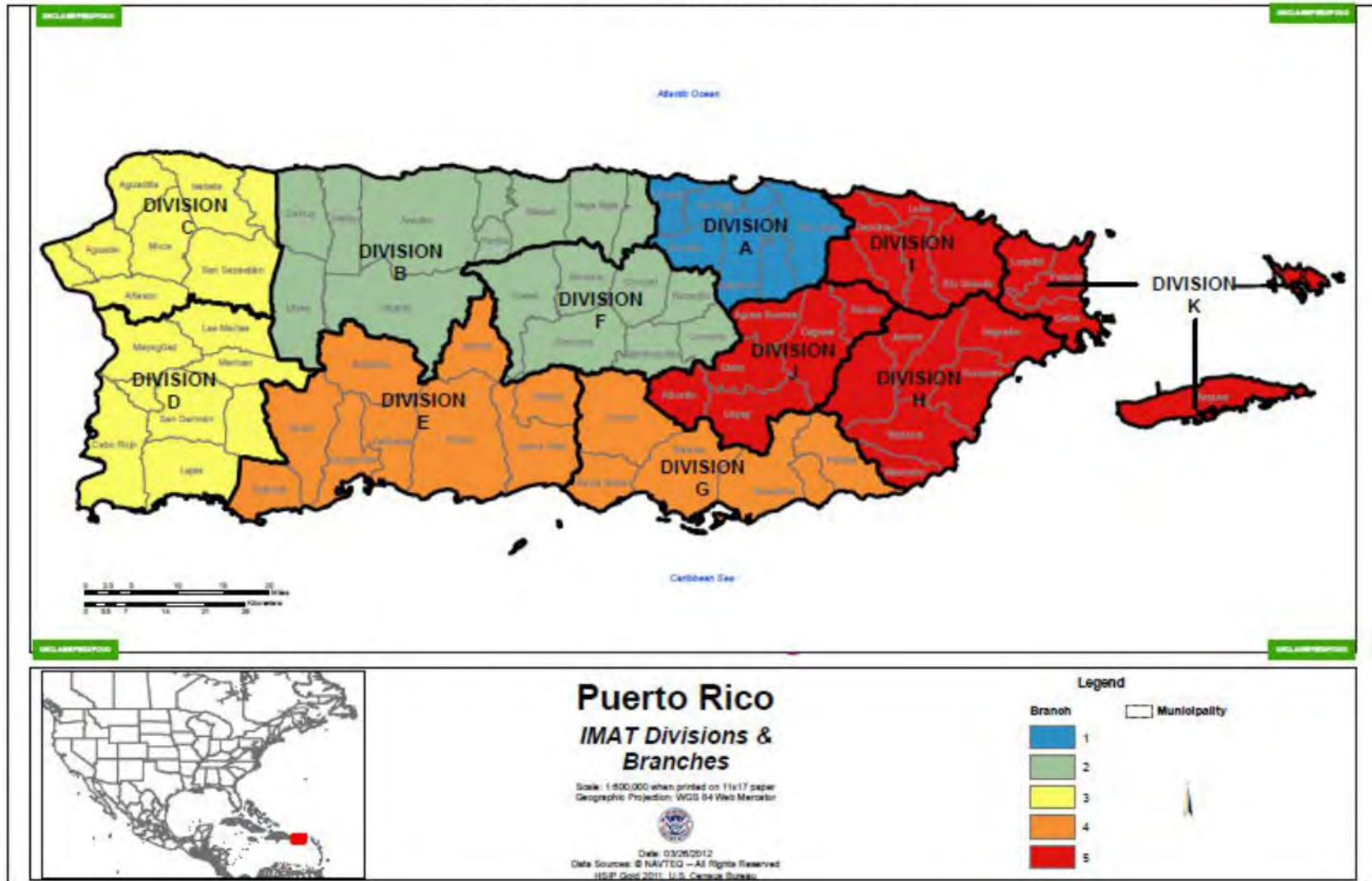
Infrastructure Systems

The Government of Puerto Rico provides service to maintain and repair its critical infrastructure for the population of Puerto Rico and in support of the national critical infrastructure and key resources (CIKR) program during normal daily activities. The government has in place fuel contracts with private vendors for critical emergency facilities and vehicles (PRPD, hospitals, and Emergency Medical Services [EMS]) and debris management plans/contractor list for debris removal if required.

CORE CAPABILITY SUPPORT MATERIAL

1.0 OPERATIONAL COORDINATION & PLANNING

Graph 1A: IMAT Division and Branches



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PUERTO RICO CATASTROPHIC PLANNING ANNEX
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Graph 2A: Public Information and Warning Systems

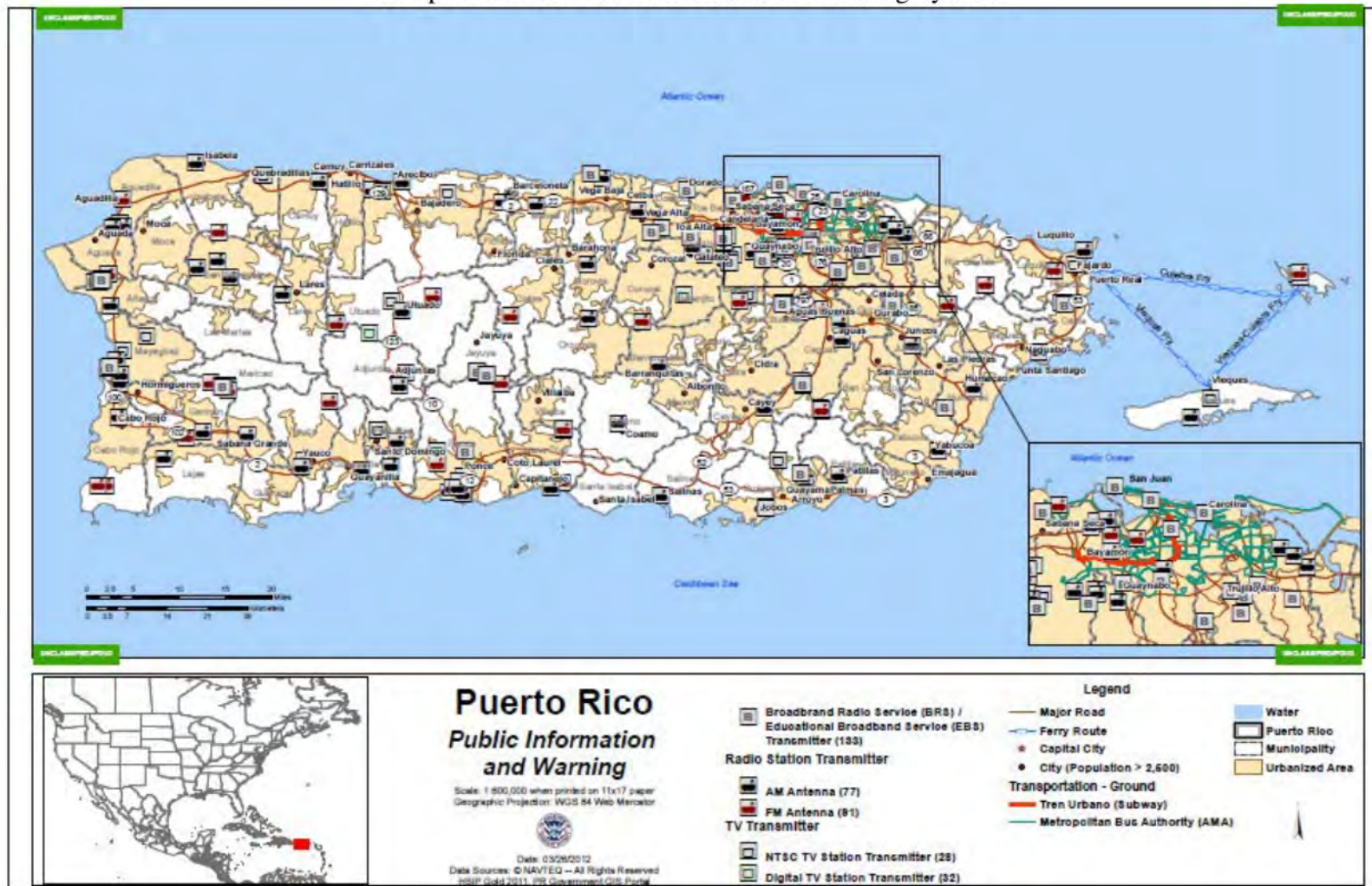


Table 2A: Broadband Radio Service/ Educational Broadband Service Transmitter

Public Information and Warning			
Broadband Radio Service (BRS) / Educational Broadband Service (EBS) Transmitter (133)			
LICENSEE	CALLSIGN	LAT_DMS	LON_DMS
CARIBBEAN UNIVERSITY	WLX315	18,16,43.8	66,6,36.6
CARIBBEAN UNIVERSITY	WLX315	18,16,43.8	66,6,36.6
CARIBBEAN UNIVERSITY	WLX315	18,20,39.8	66,11,45.1
CARIBBEAN UNIVERSITY	WLX315	18,26,31.7	66,11,22.1
CARIBBEAN UNIVERSITY	WLX315	18,29,1.6	66,24,44.9
CARIBBEAN UNIVERSITY	WLX315	18,23,15	66,11,56.4
CARIBBEAN UNIVERSITY	WLX315	18,22,30.6	66,12,17.2
CARIBBEAN UNIVERSITY	WLX315	18,19,49.7	66,1,30
CARIBBEAN UNIVERSITY	WLX315	18,23,59	66,18,9
CARIBBEAN UNIVERSITY	WLX315	18,23,0.5	66,12,16.4
CARIBBEAN UNIVERSITY	WLX315	18,20,56	66,8,35.9
CARIBBEAN UNIVERSITY	WLX315	18,23,4.3	66,15,25
CARIBBEAN UNIVERSITY	WLX315	18,20,20.8	65,59,17.1
CARIBBEAN UNIVERSITY	WLX315	18,23,33	66,19,5.6
CARIBBEAN UNIVERSITY	WLX315	18,22,19.2	66,4,9.4
CARIBBEAN UNIVERSITY	WLX315	18,27,33.1	66,15,46
CARIBBEAN UNIVERSITY	WLX315	18,27,15.2	66,4,46.4
CARIBBEAN UNIVERSITY	WLX315	18,26,27.4	66,1,31.9
CARIBBEAN UNIVERSITY	WLX315	18,28,4.1	66,6,58.8
CARIBBEAN UNIVERSITY	WLX315	18,22,9	66,6,30.7
CARIBBEAN UNIVERSITY	WLX315	18,25,29	66,3,32.7
CARIBBEAN UNIVERSITY	WND492	18,2,52.9	66,36,35.6
CARIBBEAN UNIVERSITY	WND492	18,2,52.9	66,36,35.6
CATHOLIC ARCHDIOCESE OF SAN JUAN	WLX321	18,16,43.8	66,6,36.6
CATHOLIC ARCHDIOCESE OF SAN JUAN	WLX321	18,16,43.8	66,6,36.6
CATHOLIC ARCHDIOCESE OF SAN JUAN	WLX321	18,20,39.8	66,11,45.1
CATHOLIC ARCHDIOCESE OF SAN JUAN	WLX321	18,26,31.7	66,11,22.1
CATHOLIC ARCHDIOCESE OF SAN JUAN	WLX321	18,29,1.6	66,24,44.9
CATHOLIC ARCHDIOCESE OF SAN JUAN	WLX321	18,23,15	66,11,56.4
CATHOLIC ARCHDIOCESE OF SAN JUAN	WLX321	18,22,30.6	66,12,17.2
CATHOLIC ARCHDIOCESE OF SAN JUAN	WLX321	18,19,49.7	66,1,30
CATHOLIC ARCHDIOCESE OF SAN JUAN	WLX321	18,23,59	66,18,9
CATHOLIC ARCHDIOCESE OF SAN JUAN	WLX321	18,23,0.5	66,12,16.4
CATHOLIC ARCHDIOCESE OF SAN JUAN	WLX321	18,20,56	66,8,35.9

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PUERTO RICO CATASTROPHIC PLANNING ANNEX
FOR OFFICIAL USE ONLY (FOUO)

Public Information and Warning			
Broadband Radio Service (BRS) / Educational Broadband Service (EBS) Transmitter (133)			
LICENSEE	CALLSIGN	LAT DMS	LON DMS
CATHOLIC ARCHDIOCESE OF SAN JUAN	WLX321	18,23,4.3	66,15,25
CATHOLIC ARCHDIOCESE OF SAN JUAN	WLX321	18,20,20.8	65,59,17.1
CATHOLIC ARCHDIOCESE OF SAN JUAN	WLX321	18,23,33	66,19,5.6
Centennial Puerto Rico License Corp.	L000004	18,10,2.9	66,34,34.6
Centennial Puerto Rico License Corp.	L000004	18,10,2.9	66,34,34.6
Centennial Puerto Rico License Corp.	L000004	18,16,41.8	65,56,21.6
Centennial Puerto Rico License Corp.	L000004	18,16,41.8	65,56,21.6
Centennial Puerto Rico License Corp.	L000004	18,18,58.8	67,10,47.7
Centennial Puerto Rico License Corp.	L000004	18,18,58.8	67,10,47.7
Centennial Puerto Rico License Corp.	L000004	18,16,42.8	65,40,11.6
Centennial Puerto Rico License Corp.	L000004	18,16,42.8	65,40,11.6
Centennial Puerto Rico License Corp.	L000004	18,16,46.8	66,6,44.6
Centennial Puerto Rico License Corp.	L000004	18,16,46.8	66,6,44.6
Centennial Puerto Rico License Corp.	L000004	18,8,57.8	66,59,27.6
Centennial Puerto Rico License Corp.	L000004	18,8,57.8	66,59,27.6
Centennial Puerto Rico License Corp.	L000004	18,7,0.9	65,51,27.6
Centennial Puerto Rico License Corp.	L000004	18,7,0.9	65,51,27.6
Centennial Puerto Rico License Corp.	L000004	18,0,46.9	66,5,1.6
Centennial Puerto Rico License Corp.	L000004	17,57,32.9	66,8,18.6
Centennial Puerto Rico License Corp.	L000004	18,9,16	66,4,50
Centennial Puerto Rico License Corp.	L000004	18,9,8.9	66,4,48.6
Hispanic Information and Telecommunications Network, Inc.	WNC700	18,18,59.8	67,10,39.7
Hispanic Information and Telecommunications Network, Inc.	WNC700	18,18,59.8	67,10,39.7
Hispanic Information and Telecommunications Network, Inc.	WNC698	18,16,57.8	65,40,26.6
Hispanic Information and Telecommunications Network, Inc.	WNC698	18,16,57.8	65,40,26.6
Hispanic Information and Telecommunications Network, Inc.	WNC706	18,16,57.8	65,40,26.6
Hispanic Information and Telecommunications Network, Inc.	WNC706	18,16,57.8	65,40,26.6
Hispanic Information and Telecommunications Network, Inc.	WND679	18,10,20.9	66,35,29.6
Hispanic Information and Telecommunications Network, Inc.	WND679	18,10,20.9	66,35,29.6
Hispanic Information and Telecommunications Network, Inc.	WNC725	18,18,59.8	67,10,39.7
Hispanic Information and Telecommunications Network, Inc.	WNC725	18,18,59.8	67,10,39.7
Hispanic Information and Telecommunications Network, Inc.	WND680	18,10,20.9	66,35,29.6
Hispanic Information and Telecommunications Network, Inc.	WND680	18,10,20.9	66,35,29.6
HITN - Puerto Rico, LLC	WLX323	18,16,43.8	66,6,36.6
HITN - Puerto Rico, LLC	WLX323	18,16,43.8	66,6,36.6

Public Information and Warning			
Broadband Radio Service (BRS) / Educational Broadband Service (EBS) Transmitter (133)			
LICENSEE	CALLSIGN	LAT_DMS	LON_DMS
HITN - Puerto Rico, LLC	WLX323	18,20,39.8	66,11,45.1
HITN - Puerto Rico, LLC	WLX323	18,26,31.7	66,11,22.1
HITN - Puerto Rico, LLC	WLX323	18,29,1.6	66,24,44.9
HITN - Puerto Rico, LLC	WLX323	18,23,15	66,11,56.4
HITN - Puerto Rico, LLC	WLX323	18,22,30.6	66,12,17.2
HITN - Puerto Rico, LLC	WLX323	18,19,49.7	66,1,30
HITN - Puerto Rico, LLC	WLX323	18,23,59	66,18,9
HITN - Puerto Rico, LLC	WLX323	18,23,0.5	66,12,16.4
HITN - Puerto Rico, LLC	WLX323	18,20,56	66,8,35.9
HITN - Puerto Rico, LLC	WLX323	18,23,4.3	66,15,25
HITN - Puerto Rico, LLC	WLX323	18,20,20.8	65,59,17.1
HITN - Puerto Rico, LLC	WLX323	18,23,33	66,19,5.6
NSAC, LLC	B489	18,10,52.8	67,10,2.6
PUERTO RICO MEDICAL ASSOCIATION	WLX322	18,16,43.8	66,6,36.6
PUERTO RICO MEDICAL ASSOCIATION	WLX322	18,16,43.8	66,6,36.6
PUERTO RICO MEDICAL ASSOCIATION	WLX322	18,20,39.8	66,11,45.1
PUERTO RICO MEDICAL ASSOCIATION	WLX322	18,26,31.7	66,11,22.1
PUERTO RICO MEDICAL ASSOCIATION	WLX322	18,29,1.6	66,24,44.9
PUERTO RICO MEDICAL ASSOCIATION	WLX322	18,23,15	66,11,56.4
PUERTO RICO MEDICAL ASSOCIATION	WLX322	18,22,30.6	66,12,17.2
PUERTO RICO MEDICAL ASSOCIATION	WLX322	18,19,49.7	66,1,30
PUERTO RICO MEDICAL ASSOCIATION	WLX322	18,23,59	66,18,9
PUERTO RICO MEDICAL ASSOCIATION	WLX322	18,23,0.5	66,12,16.4
PUERTO RICO MEDICAL ASSOCIATION	WLX322	18,20,56	66,8,35.9
PUERTO RICO MEDICAL ASSOCIATION	WLX322	18,23,4.3	66,15,25
PUERTO RICO MEDICAL ASSOCIATION	WLX322	18,20,20.8	65,59,17.1
PUERTO RICO MEDICAL ASSOCIATION	WLX322	18,23,33	66,19,5.6
ROHEL PASCUAL	WHT593	18,18,58.8	67,10,40.7
ROHEL PASCUAL	WHT593	18,18,58.8	67,10,40.7
Sala Business Corporation	WHT654	18,16,43.8	66,6,36.6
Sala Business Corporation	WHT654	18,16,43.8	66,6,36.6
Sala Business Corporation	WHT654	18,29,1.6	66,24,44.9
Sala Business Corporation	WHT654	18,26,31.7	66,11,22.1
Sala Business Corporation	WHT654	18,22,30.6	66,12,17.2
Sala Business Corporation	WHT654	18,19,49.7	66,1,30

Public Information and Warning			
Broadband Radio Service (BRS) / Educational Broadband Service (EBS) Transmitter (133)			
LICENSEE	CALLSIGN	LAT DMS	LON DMS
Sala Business Corporation	WHT654	18,20,20.8	65,59,17.1
Sala Business Corporation	WHT654	18,23,59	66,18,9
Sala Business Corporation	WHT654	18,20,56	66,8,35.9
Sala Business Corporation	WHT654	18,23,4.3	66,15,25
Sala Business Corporation	WHT654	18,23,15	66,11,56.4
Sala Business Corporation	WHT654	18,23,0.5	66,12,16.4
Sala Business Corporation	WHT654	18,21,12.9	65,56,7.5
Sala Business Corporation	WHT654	18,20,39.8	66,11,45.1
Sala Business Corporation	WHT654	18,21,23	65,59,5.6
Sala Business Corporation	WHT654	18,22,3.6	65,58,16.5
Sala Business Corporation	WHT654	18,21,38.7	65,59,53.4
SISTEMA UNIVERSITARIO ANA G MENDEZ INC	WNC695	18,0,46.9	66,5,1.6
SISTEMA UNIVERSITARIO ANA G MENDEZ INC	WNC695	17,57,32.9	66,8,18.6
SISTEMA UNIVERSITARIO ANA G MENDEZ INC	WNC694	18,7,0.9	65,51,27.6
SISTEMA UNIVERSITARIO ANA G MENDEZ INC	WNC694	18,7,0.9	65,51,27.6
SISTEMA UNIVERSITARIO ANA G MENDEZ, INC.	WNC703	18,16,42.8	65,40,11.6
SISTEMA UNIVERSITARIO ANA G MENDEZ, INC.	WNC703	18,16,42.8	65,40,11.6
SISTEMA UNIVERSITARIO ANA G. MENDEZ, INC.	WNC864	18,9,16	66,4,50
SISTEMA UNIVERSITARIO ANA G. MENDEZ, INC.	WNC864	18,9,8.9	66,4,48.6
SISTEMA UNIVERSITARIO ANA G. MENDEZ, INC.	WLX661	18,10,2.9	66,34,34.6
SISTEMA UNIVERSITARIO ANA G. MENDEZ, INC.	WLX661	18,10,2.9	66,34,34.6
SISTEMA UNIVERSITARIO ANA G. MENDEZ, INC.	WLX662	18,16,41.8	65,56,21.6
SISTEMA UNIVERSITARIO ANA G. MENDEZ, INC.	WLX662	18,16,41.8	65,56,21.6
SISTEMA UNIVERSITARIO ANA G. MENDEZ, INC.	WLX663	18,18,58.8	67,10,47.7
SISTEMA UNIVERSITARIO ANA G. MENDEZ, INC.	WLX663	18,18,58.8	67,10,47.7
Sistema Universitario Ana G. Mendez, Inc.	WLX664	18,16,46.8	66,6,44.6
Sistema Universitario Ana G. Mendez, Inc.	WLX664	18,16,46.8	66,6,44.6
SISTEMA UNIVERSITARIO ANA G. MENDEZ, INC.	WNC693	18,8,57.8	66,59,27.6
SISTEMA UNIVERSITARIO ANA G. MENDEZ, INC.	WNC693	18,8,57.8	66,59,27.6

Table 2B: Radio Station Transmitter – AM Antenna

Public Information and Warning					
Radio Station Transmitter					
AM Antenna (77)					
CALLSIGN	FREQUENCY	CITY	LICENSEE	LATDD	LONDD
WA2XPA	680 kHz	ARECIBO	WILFREDO BLANCO PI	18.4717	66.7097
WABA	850 kHz	AGUADILLA	AGUADILLA RADIO & TV CORP., INC.	18.4006	67.1575
WALO	1240 kHz	HUMACAO	OCHOA BROADCASTING CORP.	18.1469	65.8136
WAPA	680 kHz	SAN JUAN	WILFREDO BLANCO PI	18.4047	65.9486
WBMJ	1190 kHz	SAN JUAN	CALVARY EVANGELISTIC MISSION, INC.	18.35	66.1139
WBQN	1160 kHz	BARCELONETA-MANATI	RADIO BORINQUEN, INCORPORATED	18.4397	66.5519
WBSG	1510 kHz	LAJAS	PERRY BROADCASTING SYSTEMS	18.0364	67.0828
WCGB	1060 kHz	JUANA DIAZ	CALVARY EVANGELISTIC MISSION, INC.	17.9911	66.4756
WCHQ	960 kHz	QUEBRADILLAS	LA MAS Z RADIO, INC.	18.3356	67.0308
WCPR	1450 kHz	COAMO	COAMO BROADCASTING CORP.	18.0914	66.3708
WDEP	1490 kHz	PONCE	MEDIA POWER GROUP, INC.	17.9811	66.6142
WEGA	1350 kHz	VEGA BAJA	A RADIO COMPANY, INC.	18.4772	66.3953
WEKO	1580 kHz	MOROVIS	INTERNATIONAL BROADCASTING CORPORATION	18.3422	66.4189
WEKO	1580 kHz	MOROVIS	INTERNATIONAL BROADCASTING CORPORATION	18.3422	66.4189
WENA	1330 kHz	YAUCO	SOUTHERN BROADCASTING CORPORATION	18.0344	66.8633
WEXS	610 kHz	PATILLAS	COMMUNITY BROADCASTING, INC.	18.01	66.0244
WFAB	890 kHz	CEIBA	DANIEL ROSARIO DIAZ	18.2044	65.7111
WGDL	1200 kHz	LARES	LARES BROADCASTING CORPORATION	18.2944	66.8972
WGIT	1660 kHz	CANOVANAS	INTERNATIONAL BROADCASTING CORPORATION	18.3858	65.9211
WHQY	1210 kHz	SALINAS	COLON RADIO CORPORATION	17.9772	66.3039
WHQY	1210 kHz	SALINAS	COLON RADIO CORPORATION	17.9772	66.3039
WI2XAC	740 kHz	PONCE	BESTOV BROADCASTING, INC.	18.0244	66.7267
WI2XSO	1260 kHz	MAYAGUEZ	WIFREDO G. BLANCO-PI	18.1547	67.1522
WI3XSO	1260 kHz	AGUADILLA	WIFREDO G. BLANCO PI	18.4025	67.1464
WIAC	740 kHz	SAN JUAN	BESTOV BROADCASTING, INC.	18.3567	66.2347
WIBS	1540 kHz	GUAYAMA	INTERNATIONAL BROADCASTING CORPORATION	17.9956	66.0775
WIDA	1400 kHz	CAROLINA	RADIO VIDA INCORPORADO	18.3969	65.935
WIPR	940 kHz	SAN JUAN	PUERTO RICO PUBLIC BROADCASTING CORPORATION	18.4267	66.1414
WISA	1390 kHz	ISABELA	ISABELA BROADCASTING INC.	18.5017	67.0336
WISO	1260 kHz	PONCE	WIFREDO G. BLANCO PI	17.9842	66.6367
WIVV	1370 kHz	ISLAND OF VIEQUES	CALVARY EVANGELISTIC MISSION, INC.	18.1019	65.4725
WJIT	1250 kHz	SABANA	WJIT BROADCASTING CORP.	18.4269	66.3389
WKAQ	580 kHz	SAN JUAN	WLII/WSUR LICENSE PARTNERSHIP, G.P.	18.4322	66.1358

NOTE: Limited Distribution. Release of this information is strictly controlled by DHS.

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— FOR OFFICIAL USE ONLY (FOUO) —

— FOR OFFICIAL USE ONLY (FOUO) —
PUERTO RICO CATASTROPHIC PLANNING ANNEX

Public Information and Warning					
Radio Station Transmitter					
AM Antenna (77)					
CALLSIGN	FREQUENCY	CITY	LICENSEE	LATDD	LONDD
WKCK	1470 kHz	OROCOVIS	RADIO SOL BROADCASTING CORP.	18.2567	66.4167
WKFE	1550 kHz	YAUCO	MEDIA POWER GROUP, INC.	18.0233	66.8672
WKJB	710 kHz	MAYAGUEZ	RADIO STATION WKJB AM-FM, INC.	18.1689	67.1508
WKVM	810 kHz	SAN JUAN	CATHOLIC, APOSTOLIC & ROMAN CHURCH IN PUERTO RICO	18.3631	66.1369
WLEO	1170 kHz	PONCE	UNO RADIO OF PONCE, INC.	17.9811	66.6142
WLEY	1080 kHz	CAYEY	MEDIA POWER GROUP, INC.	18.1153	66.1411
WLRP	1460 kHz	SAN SEBASTIAN	LAS RAICES PEPINIANAS, INC.	18.3472	66.9989
WLUZ	1600 kHz	BAYAMON	MARKETING PROMOTION NETWORK, INC.	18.3606	66.1583
WMDD	1480 kHz	FAJARDO	PAN CARIBBEAN BROADCASTING DE P.R., INC.	18.3628	65.64
WMIA	1070 kHz	ARECIBO	ABACOA RADIO CORPORATION	18.4592	66.7556
WMNT	1500 kHz	MANATI	MANATI RADIO CORPORATION	18.435	66.4983
WMSW	1120 kHz	HATILLO	AURORA BROADCASTING CORPORATION	18.4708	66.84
WMSW	1120 kHz	HATILLO	AURORA BROADCASTING CORPORATION	18.4708	66.84
WNEL	1430 kHz	CAGUAS	TURABO RADIO CORPORATION	18.2481	66.0236
WNIK	1230 kHz	ARECIBO	UNIK BROADCASTING SYSTEM CORPORATION	18.4556	66.74
WOIZ	1130 kHz	GUAYANILLA	RADIO ANTILLAS OF HARRIET BROADCASTERS	18.0175	66.7728
WOLA	1380 kHz	BARRANQUITAS	TORRECILLAS BROADCASTING CORP.	18.1836	66.3067
WOQI	1020 kHz	ADJUNTAS	RADIO CASA PUEBLO, INC.	18.1511	66.7133
WORA	760 kHz	MAYAGUEZ	ARSO RADIO CORPORATION	18.1917	67.1578
WOSO	1030 kHz	SAN JUAN	SHERMAN BROADCASTING CORPORATION	18.3686	66.2547
WPAB	550 kHz	PONCE	WPAB, INC.	17.9908	66.6294
WPPC	1570 kHz	PENUELAS	RADIO FELICIDAD, INC	18.0631	66.7178
WPRA	990 kHz	MAYAGUEZ	WPRA, INC.	18.1689	67.1508
WPRP	910 kHz	PONCE	ARSO RADIO CORPORATION	17.9908	66.63
WQBS	870 kHz	SAN JUAN	AERCO BROADCASTING CORPORATION	18.3522	66.2017
WQII	1140 kHz	SAN JUAN	COMMUNICATIONS COUNSEL GROUP, INC.	18.3583	66.1347
WRRE	1460 kHz	JUNCOS	HACIENDA SAN ELADIO, INC.	18.215	65.9092
WRSJ	1560 kHz	BAYAMON	INTERNATIONAL BROADCASTING CORP.	18.4014	66.1206
WRSS	1410 kHz	SAN SEBASTIAN	ANGEL VERA-MAURY	18.3206	66.9792
WSKN	1320 kHz	SAN JUAN	MEDIA POWER GROUP, INC.	18.3833	66.0669
WSOL	1090 kHz	SAN GERMAN	SAN GERMAN BROADCASTERS GROUP	18.0789	67.0217
WUKQ	1420 kHz	PONCE	WLII/WSUR LICENSE PARTNERSHIP, G.P.	17.9897	66.6225
WUNO	630 kHz	SAN JUAN	ARSO RADIO CORPORATION	18.4333	66.1247
WUPR	1530 kHz	UTUADO	CENTRAL BROADCASTING CORPORATION	18.2678	66.7097

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—FOR OFFICIAL USE ONLY (FOUO)—

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Public Information and Warning Radio Station Transmitter AM Antenna (77)					
CALLSIGN	FREQUENCY	CITY	LICENSEE	LATDD	LONDD
WVJP	1110 kHz	CAGUAS	BORINQUEN BROADCASTING CO., INC.	18.2236	66.0197
WVOZ	1520 kHz	SAN JUAN	PEDRO ROMAN COLLAZO	18.3531	66.2025
WWNA	1340 kHz	AGUADILLA	DOMINGA BARRETO SANTIAGO	18.4	67.1633
WXEW	840 kHz	YABUCOA	WXEW RADIO VICTORIA, INC.	18.0494	65.8686
WXRF	1590 kHz	GUAYAMA	INTERNATIONAL BROADCASTING CORPORATION	17.9611	66.1389
WYAC	930 kHz	CABO ROJO	BESTOV BROADCASTING, INC.	18.1014	67.1547
WYEL	600 kHz	MAYAGUEZ	WLII/WSUR LICENSE PARTNERSHIP, G.P.	18.1775	67.1708
WYKO	880 kHz	SABANA GRANDE	JUAN GALIANO RIVERA	18.0725	66.9517
WZNA	1040 kHz	MOCA	LA MAS Z RADIO, INC.	18.2772	67.1669
WZNA	1040 kHz	MOCA	LA MAS Z RADIO, INC.	18.2772	67.1669

Table 2C: Radio Station Transmitter – FM Antenna

Public Information and Warning					
Radio Station Transmitter					
FM Antenna (91)					
LICENSEE	CALLSIGN	FREQUENCY	CITY	LATDD	LONDD
ARSO RADIO CORPORATION	W285DL	104.9 MHz	HORMIGUEROS	17.9936	67.1742
ARSO RADIO CORPORATION	WFDT	105.5 MHz	AGUADA	18.3158	67.1817
ARSO RADIO CORPORATION	WIVA-FM	100.3 MHz	AGUADILLA	18.1519	66.9875
ARSO RADIO CORPORATION	WMIO	102.3 MHz	CABO ROJO	17.9936	67.1742
ARSO RADIO CORPORATION	WPRM-FM	98.5 MHz	SAN JUAN	18.1131	66.0517
ARSO RADIO CORPORATION	WPRM-FM	98.5 MHz	SAN JUAN	18.1131	66.0517
ARSO RADIO CORPORATION	WRIO	101.1 MHz	PONCE	18.0278	66.6539
ARSO RADIO CORPORATION	WRIO	101.1 MHz	PONCE	17.9811	66.6136
BORINQUEN BROADCASTING CO., INC.	WVJP-FM	103.3 MHz	CAGUAS	18.2781	65.8525
BROADCASTING & PROGRAMMING SYSTEMS OF PUERTO RICO, INC.	WCAD	105.7 MHz	SAN JUAN	18.2817	66.1128
BROADCASTING & PROGRAMMING SYSTEMS OF PUERTO RICO, INC.	WCAD-FM1	105.7 MHz	FAJARDO	18.2811	65.6692
BROADCASTING & PROGRAMMING SYSTEMS OF PUERTO RICO, INC.	WCAD-FM2	105.7 MHz	JUANA DIAZ	18.0825	66.4547
CARIBBEAN BROADCASTING CORP.	WCMN-FM3	107.3 MHz	PONCE	17.9811	66.6136
CARIBBEAN BROADCASTING CORPORATION	WCMN-FM	107.3 MHz	ARECIBO	18.2478	66.8119
CATHOLIC, APOSTOLIC & ROMAN CHURCH IN PUERTO RICO	WORO	92.5 MHz	COROZAL	18.2525	66.3328
CENTRO COLEGIAL CRISTIANO, INC.	WVID	90.3 MHz	ANASCO	18.3167	67.1831
CLAMOR BROADCASTING NETWORK, INC.	WJVP	89.3 MHz	CULEBRA	18.3269	65.3058
CORP. OF THE SEVENTH DAY ADVENTISTS OF WEST PR	WTPM	92.9 MHz	AGUADILLA	18.3131	67.185
CORP. OF THE SEVENTH DAY ADVENTISTS OF WEST PR	WTPM-FM1	92.9 MHz	PONCE	18.1247	66.8228
FAJARDO BROADCASTING CO., INC.	WYQE	92.9 MHz	NAGUABO	18.2806	65.6703
HQ-103, INC.	WDIN	102.9 MHz	CAMUY	18.2908	66.6608
IDALIA ARZUAGA, ET AL, EXECUTRIX, ESTATE OF JOSE J. ARZUAGA	WIDI	98.3 MHz	QUEBRADILLAS	18.3925	66.9961
IDALIA ARZUAGA, ET AL, EXECUTRIX, ESTATE OF JOSE J. ARZUAGA	WIDI-FM1	98.3 MHz	MAYAGUEZ	18.3181	67.1803
IDALIA ARZUAGA, ET AL, EXECUTRIX, ESTATE OF JOSE J. ARZUAGA	WOYE	97.3 MHz	RIO GRANDE	18.2794	65.8533
INTERNATIONAL BROADCASTING CORPORATION	WVOZ-FM	107.7 MHz	CAROLINA	18.31	65.7947
INTERNATIONAL BROADCASTING CORPORATION	WVOZ-FM1	107.7 MHz	JUANA DIAZ	18.0808	66.4561
JUAN CARLOS MATOS BARRETO	W268BK	101.5 MHz	PATILLAS	18.1131	66.0515
JUAN CARLOS MATOS BARRETO	W279BV	103.7 MHz	SAN JUAN	18.4139	66.0942
KELLY BROADCASTING SYSTEM CORP.	WNIK-FM	106.5 MHz	ARECIBO	18.4556	66.74

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—FOR OFFICIAL USE ONLY (FOUO)—

Public Information and Warning Radio Station Transmitter FM Antenna (91)					
LICENSEE	CALLSIGN	FREQUENCY	CITY	LATDD	LONDD
LA EQUIUS BROADCASTING CORP.	WELX	101.5 MHz	ISABELA	18.4433	67.1472
LA GIGANTE SIEMBRA INC.	WPLI	88.5 MHz	LEVITTOWN	18.4486	66.1739
LA MAZ Z RADIO, INC.	W283BI	104.5 MHz	ANASCO	18.3183	67.1803
LA VOZ EVANGELICA DE PUERTO RICO	WNRT-FM1	96.9 MHz	CAGUAS	18.2697	66.0739
LA VOZ EVANGELICA DE PUERTO RICO, INC.	WNRT	96.9 MHz	MANATI	18.2614	66.5386
LUIS CAJIGA	W225AY	92.9 MHz	ARROYO	18.01	66.0246
LUIS G. CAJIGA	W279BU	103.7 MHz	GURABO	18.2236	66.0197
MADIFIDE, INC.	WFID	95.7 MHz	RIO PIEDRAS	18.2667	66.0847
MINISTERIO RADIAL CRISTO VIENE PRONTO, INC	W208AE	89.5 MHz	ANASCO	18.315	67.1828
MINISTERIO RADIAL CRISTO VIENE PRONTO, INC	WCRP	88.1 MHz	GUAYAMA	18.1131	66.0522
MSG RADIO, INC.	WTOK-FM	102.5 MHz	SAN JUAN	18.2817	65.945
MSG RADIO, INC.	WTOK-FM1	102.5 MHz	PONCE	18.0808	66.4561
MSG RADIO, INC.	WTOK-FM2	102.5 MHz	CEIBA	18.2806	65.6703
NEW LIFE BROADCASTING, INC.	WNVM	97.7 MHz	CIDRA	18.2804	66.1098
PONTIFICAL CATHOLIC UNIV OF PUERTO RICO SERVICE ASSN, INC.	W206AF	89.1 MHz	MAYAGUEZ	18.1558	67.0089
PONTIFICAL CATHOLIC UNIV OF PUERTO RICO SERVICE ASSN, INC.	WPUC-FM	88.9 MHz	PONCE	18.1742	66.5922
PONTIFICAL CATHOLIC UNIV OF PUERTO RICO SERVICE ASSN, INC.	WPUC-FM	88.9 MHz	PONCE	18.1742	66.5922
PONTIFICAL CATHOLIC UNIV OF PUERTO RICO SERVICE ASSN, INC.	WPUC-FM1	88.9 MHz	CAGUAS	18.1544	66.0808
PUERTO RICO PUBLIC BROADCASTING CORPORATION	WIPR-FM	91.3 MHz	SAN JUAN	18.1117	66.0514
RAAD BROADCASTING CORP	WXYX-FM2	100.7 MHz	CEIBA	18.2806	65.6703
RAAD BROADCASTING CORPORATION	WXYX	100.7 MHz	BAYAMON	18.2828	66.1797
RAAD BROADCASTING CORPORATION	WXYX-FM1	100.7 MHz	JUANA DIAZ	18.0839	66.4561
RADIO REDENTOR	WERR	104.1 MHz	VEGA ALTA	18.2914	66.6608
RADIO REDENTOR, INC.	WERR-FM1	104.1 MHz	CAGUAS	18.2714	66.0544
RADIO SOL 92, WZOL, INC.	WYAS	92.1 MHz	LUQUILLO	18.3317	65.6864
RADIO SOL 92, WZOL, INC.	WZOL	98.9 MHz	VIEQUES	18.3275	65.3014
RADIO VIDA INCORPORADO	WIDA-FM	90.5 MHz	CAROLINA	18.1133	66.0519
RADIO X BROADCASTING CORPORATION	WXLX	103.7 MHz	LAJAS	17.9936	67.1858
RENACER BROADCASTERS CORPORATION	WRRH	106.1 MHz	HORMIGUEROS	18.1425	66.9822

Public Information and Warning					
Radio Station Transmitter					
FM Antenna (91)					
LICENSEE	CALLSIGN	FREQUENCY	CITY	LATDD	LONDD
SIEMBRA FERTIL P.R., INC.	WJDZ	90.1 MHz	PASTILLO	17.9992	66.4581
SIEMBRA FERTIL P.R., INC.	WNNV	91.7 MHz	SAN GERMAN	18.0689	67.0483
SPANISH BROADCASTING SYSTEM HOLDING COMPANY, INC.	W276AI	103.1 MHz	PONCE	18	66.6206
SPANISH BROADCASTING SYSTEM HOLDING COMPANY, INC.	WEGM	95.1 MHz	SAN GERMAN	18.1486	66.9817
SPANISH BROADCASTING SYSTEM HOLDING COMPANY, INC.	WIOA	99.9 MHz	SAN JUAN	18.2789	65.8533
SPANISH BROADCASTING SYSTEM HOLDING COMPANY, INC.	WIOA	99.9 MHz	SAN JUAN	18.4181	66.1208
SPANISH BROADCASTING SYSTEM HOLDING COMPANY, INC.	WIOA-FM1	99.9 MHz	CEIBA	18.2811	65.6692
SPANISH BROADCASTING SYSTEM HOLDING COMPANY, INC.	WIOB	97.5 MHz	MAYAGUEZ	18.3258	67.1703
SPANISH BROADCASTING SYSTEM HOLDING COMPANY, INC.	WIOB-FM1	97.5 MHz	SAN GERMAN, ETC.	18.1522	66.9889
SPANISH BROADCASTING SYSTEM HOLDING COMPANY, INC.	WIOC	105.1 MHz	PONCE	17.9908	66.6292
SPANISH BROADCASTING SYSTEM HOLDING COMPANY, INC.	WNOD	94.1 MHz	MAYAGUEZ	18.1514	66.9889
SPANISH BROADCASTING SYSTEM HOLDING COMPANY, INC.	WODA	94.7 MHz	BAYAMON	18.2789	65.8533
SPANISH BROADCASTING SYSTEM HOLDING COMPANY, INC.	WODA	94.7 MHz	BAYAMON	18.4181	66.1208
SPANISH BROADCASTING SYSTEM HOLDING COMPANY, INC.	WODA-FM1	94.7 MHz	CEIBA	18.2811	65.6692
SPANISH BROADCASTING SYSTEM HOLDING COMPANY, INC.	WZMT	93.3 MHz	PONCE	17.9906	66.6286
SPANISH BROADCASTING SYSTEM HOLDING COMPANY, INC.	WZNT	93.7 MHz	SAN JUAN	18.2789	65.8533
SPANISH BROADCASTING SYSTEM HOLDING COMPANY, INC.	WZNT	93.7 MHz	SAN JUAN	18.4181	66.1208
SPANISH BROADCASTING SYSTEM HOLDING COMPANY, INC.	WZNT-FM1	93.7 MHz	CEIBA	18.2811	65.6692
UNIVERSITY OF PUERTO RICO	WRTU	89.7 MHz	SAN JUAN	18.2667	66.0847
UNIVERSITY OF PUERTO RICO	WRUO	88.3 MHz	MAYAGUEZ	18.3253	67.1703
UNO RADIO OF PONCE, INC.	WZAR	101.9 MHz	PONCE	18.1542	66.5542
V.I. STEREO COMMUNICATIONS CORPORATION (PR)	WVIS	106.1 MHz	VIEQUES	18.3219	65.2997
WDEL, INC.	WDEL-FM	96.1 MHz	MARICAO	18.1519	66.9875
WLII/WSUR LICENSE PARTNERSHIP, G.P.	WKAQ-FM	104.7 MHz	SAN JUAN	18.2808	66.1106
WLII/WSUR LICENSE PARTNERSHIP, G.P.	WKAQ-FM1	104.7 MHz	JUANA DIAZ	18.0808	66.4561
WLII/WSUR LICENSE PARTNERSHIP, G.P.	WUKQ-FM	99.1 MHz	MAYAGUEZ	18.1514	66.9886
WLII/WSUR LICENSE PARTNERSHIP, G.P.	WUKQ-FM1	99.1 MHz	PONCE	17.9897	66.6225
WMEG LICENSING, INC.	WMEG	106.9 MHz	GUAYAMA	18.1133	66.0519
WMEG LICENSING, INC.	WMEG	106.9 MHz	GUAYAMA	18.4181	66.1208
WMEG LICENSING, INC.	WMEG-FM1	106.9 MHz	CEIBA	18.2811	65.6692
WRXD LICENSING, INC.	WRXD	96.5 MHz	FAJARDO	18.31	65.7947

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Public Information and Warning Radio Station Transmitter FM Antenna (91)					
LICENSEE	CALLSIGN	FREQUENCY	CITY	LATDD	LONDD
WRXD LICENSING, INC.	WRXD	96.5 MHz	FAJARDO	18.4181	66.1208
WZET LICENSING, INC.	WZET	92.1 MHz	HORMIGUEROS	18.3183	67.1783

Table 2D: Television Transmitter/National Television System Committee (Analog)

Public Information and Warning						
TV Transmitter						
NTSC TV Station Transmitter (28)						
LICENSEE	CALLSIGN	SERVICE	CHANNEL	CITY	LATDD	LONDD
ASOCIACION EVANGELISTICA CRISTO VIENE, INC.	W13DI-D	LD	13	YAUCO, ETC.	18.1497	66.9836
ASOCIACION EVANGELISTICA CRISTO VIENE, INC.	W49CZ-D	LD	49	AGUADA	18.3253	67.1703
ASOCIACION EVANGELISTICA CRISTO VIENE, INC.	W54AQ	TX	54	YAUCO, ETC.	18.1497	66.9831
ASOCIACION EVANGELISTICA CRISTO VIENE, INC.	W63BF	TX	63	AGUADA	18.3253	67.1703
CARMEN CABRERA	WIMN-CA	CA	20	ARECIBO	18.4539	66.6375
CMCG PUERTO RICO LICENSE LLC	WQQZ-CA	CA	33	PONCE	18.0806	66.7464
CMCG PUERTO RICO LICENSE LLC	WWKQ-LP	TX	26	QUEBRADILLAS	18.4814	66.9267
CORP. OF THE SEVENTH DAY ADVENTISTS OF WEST PR	WTPM-LD	LD	45	MAYAGUEZ-ANASCO	18.3131	67.185
HECTOR MARCANO MARTINEZ	WWXY-LP	TX	38	SAN JUAN	18.2803	66.1097
HOWARD MINTZ	W26DK-D	LD	26	SAN JUAN	18.3569	66.1897
HOWARD MINTZ	W31DL-D	LD	31	PONCE	18.0094	66.6136
INTERNATIONAL BROADCASTING CORPORATION	WIVE-LP	TX	42	CEIBA	18.2811	65.6692
JB MEDIA GROUP	WXWZ-LD	LD	23	GUAYAMA	18.1583	66.0842
JB MEDIA GROUP	WXWZ-LP	TX	22	GUAYAMA	18.0331	66.1192
JUAN G PADIN	WVQS-LP	TX	50	ISABEL SEGUNDA	18.1306	65.4414
LA CADENA DEL MILAGRO, INC.	W08AB	TX	8	GUAYAMA	18.0331	66.1192
LA CADENA DEL MILAGRO, INC.	W44CS-D	LD	44	GUAYAMA	18.0333	66.1192
SEAN D. MINTZ	W51DJ-D	LD	51	MAYAGUEZ	18.2294	67.1103
STOREFRONT TELEVISION	WSJP-LP	TX	30	AQUADILLA	18.4064	67.1519
STOREFRONT TELEVISION, LLC	WSJX-LP	TX	24	AQUADILLA	18.4064	67.1519
TELECINCO, INC.	W10BG	CA	10	MAYAGUEZ	18.2069	67.1467
TELEMUNDO OF PUERTO RICO	W09AT	TX	9	FAJARDO	18.3419	65.655
TELEMUNDO OF PUERTO RICO	W32AJ	TX	32	UTUADO	18.2842	66.7261
TELEMUNDO OF PUERTO RICO	W68BU	TX	68	ADJUNTAS	18.1708	66.7033
THREE ANGELS BROADCASTING NETWORK, INC.	W44CK	TX	44	BAYAMON, SAN JUAN	18.2919	66.175
WANDA ROLON	WQSJ-CD	CA	48	QUEBRADILLAS, ETC.	18.4814	66.9267
WANDA ROLON	WSJN-CD	CA	15	SAN JUAN	18.295	66.1656
WESTERN BROADCASTING CORP. OF PUERTO RICO	W34CI	TX	34	MAYAGUEZ, ETC.	18.3142	67.1917

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Table 2E: Television Transmitters - Digital

Public Information and Warning						
TV Transmitter						
Digital TV Station Transmitter (32)						
LICENSEE	CALLSIGN	SERVICE	CHANNEL	CITY	LATDD	LONDD
TELEVICENTRO OF PUERTO RICO, LLC	WAPA-TV	DT	27	SAN JUAN	18.1117	66.0514
ASOCIACION EVANGELISTICA CRISTO VIENE, INC.	WCCV-TV	DT	46	ARECIBO	18.235	66.76
TELEADORACION CHRISTIAN NETWORK INC.	WDWL	DT	59	BAYAMON	18.2778	66.1106
ENCUENTRO CHRISTIAN NETWORK	WECN	DT	18	NARANJITO	18.2928	66.2672
PABELLON EDUCATIONAL BROADCASTING, INC.	WELU	DT	34	AGUADILLA	18.1517	66.9897
EBENEZER BROADCASTING GROUP, INC.	WIDP	DT	45	GUAYAMA	18.2789	65.8528
PUERTO RICO PUBLIC BROADCASTING CORPORATION	WIPM-TV	DT	35	MAYAGUEZ	18.15	66.9833
PUERTO RICO PUBLIC BROADCASTING CORPORATION	WIPR-TV	DT	43	SAN JUAN	18.1117	66.0514
AMERICA-CV STATION GROUP, INC.	WIRS	DT	41	YAUCO	18.1694	66.5767
AMERICA-CV STATION GROUP, INC.	WJPX	DT	21	SAN JUAN	18.2792	65.8539
AMERICA-CV STATION GROUP, INC.	WJWN-TV	DT	39	SAN SEBASTIAN	18.15	66.9833
TELEMUNDO OF PUERTO RICO	WKAQ-TV	DT	28	SAN JUAN	18.1153	66.0531
AMERICA-CV STATION GROUP, INC.	WKPV	DT	19	PONCE	18.0803	66.7481
WLII/WSUR LICENSE PARTNERSHIP, G.P.	WLII-DT	DT	56	CAGUAS	18.2817	66.1128
SISTEMA UNIVERSITARIO ANA G. MENDEZ, INC.	WMTJ	DT	16	FAJARDO	18.3097	65.7953
TELEVICENTRO OF PUERTO RICO, LLC	WNJX-TV	DT	23	MAYAGUEZ	18.15	66.9833
TELECINCO, INC.	WORA-TV	DT	29	MAYAGUEZ	18.1509	66.9893
CATHOLIC, APOSTOLIC & ROMAN CHURCH IN PUERTO RICO	WORO-DT	DT	33	FAJARDO	18.31	65.7947
CONCILIO MISION CRISTIANA FUENTE DE AGUA VIVA, INC.	WQHA	DT	50	AGUADA	18.3186	67.18
WANDA ROLON	WQSJ-CD	DC	48	QUEBRADILLA S	18.3128	67.1858
SISTEMA UNIVERSITARIO ANA G. MENDEZ, INC.	WQTO	DT	25	PONCE	18.08	66.7489
R & F BROADCASTING, INC.	WRFB	DT	51	CAROLINA	18.2789	65.8533
EASTERN TELEVISION CORPORATION	WRUA	DT	33	FAJARDO	18.31	65.7947
WANDA ROLON	WSJN-CD	DC	20	SAN JUAN	18.2939	66.1669
AERCO BROADCASTING CORPORATION	WSJU-TV	DT	31	SAN JUAN	18.275	66.0933
WLII/WSUR LICENSE PARTNERSHIP, G.P.	WSTE-DT	DT	8	PONCE	18.0478	66.6544
INTERNATIONAL BROADCASTING CORPORATION	WTCV	DT	32	SAN JUAN	18.275	66.0933
TELEVICENTRO OF PUERTO RICO, LLC	WTIN-TV	DT	15	PONCE	18.1694	66.5767
CAGUAS EDUCATIONAL TV, INC.	WUJA	DT	48	CAGUAS	18.28	66.1092
INTERNATIONAL BROADCASTING CORPORATION	WVEO	DT	17	AGUADILLA	18.3183	67.1783
INTERNATIONAL BROADCASTING CORPORATION	WVOZ-TV	DT	47	PONCE	18.0806	66.7472

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PUERTO RICO CATASTROPHIC PLANNING ANNEX
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Public Information and Warning						
TV Transmitter						
Digital TV Station Transmitter (32)						
<i>LICENSEE</i>	<i>CALLSIGN</i>	<i>SERVICE</i>	<i>CHANNEL</i>	<i>CITY</i>	<i>LATDD</i>	<i>LONDD</i>
LA CADENA DEL MILAGRO, INC.	WVSN	DT	49	HUMACAO	18.2789	65.8528

3.0 CRITICAL TRANSPORTATION

Graph 3A: Air, Heliports, and Seaports Geographic Information System Map



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PUERTO RICO CATASTROPHIC PLANNING ANNEX
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Table 3A: Airport, Heliports and Seaports Data

PUERTO RICO							
CRITICAL TRANSPORTATION - AIRPORTS/HELIPORTS/SEAPORTS							
#	TYPE	LOCID	CITY	NAME	FAC USE	LATITUDE	LONGITUDE
1	AIRPORT	PR20	ADJUNTAS	ADJUNTAS	PR	18.180228	-66.756944
3	AIRPORT	BQN	AGUADILLA	RAFAEL HERNANDEZ	PU	18.494861	-67.129444
4	AIRPORT	ABO	ARECIBO	ANTONIO/NERY/JUARBE POL	PU	18.451111	-66.675556
6	AIRPORT	PR24	BOQUERON	CULLINGFORD FIELD	PR	17.976389	-67.170833
7	AIRPORT	PR10	CABO ROJO	BOQUERON	PR	18.013019	-67.145456
8	AIRPORT	RVR	CEIBA	JOSE APONTE DE LA TORRE	PU	18.245269	-65.643381
11	AIRPORT	X95	FAJARDO	DIEGO JIMENEZ TORRES	PU	18.30801	-65.661828
18	AIRPORT	X63	HUMACAO	HUMACAO	PU	18.138017	-65.800718
21	AIRPORT	CPX	ISLA DE CULEBRA	BENJAMIN RIVERA NORIEGA	PU	18.313289	-65.304324
22	AIRPORT	VQS	ISLA DE VIEQUES	ANTONIO RIVERA RODRIGUEZ	PU	18.134811	-65.493617
25	AIRPORT	PR25	LAJAS	LAJAS AIRPARK	PR	18.0125	-67.075
26	AIRPORT	PR07	LAS PIEDRAS	BOQUERON	PR	18.201902	-65.839052
28	AIRPORT	MAZ	MAYAGUEZ	EUGENIO MARIA DE HOSTOS	PU	18.255694	-67.148472
32	AIRPORT	X64	PATILLAS	PATILLAS	PU	17.982189	-66.01933
33	AIRPORT	PSE	PONCE	MERCEDITA	PU	18.008306	-66.563028
39	AIRPORT	SIG	SAN JUAN	FERNANDO LUIS RIBAS DOMINICCI	PU	18.456827	-66.098139
40	AIRPORT	SJU	SAN JUAN	LUIS MUNOZ MARIN INTL	PU	18.439417	-66.001833
52	AIRPORT	02PR	VEGA BAJA	CUYLERS	PR	18.453333	-66.366944
2	HELIPORT	PR23	AIBONITO	BAXTER-AIBONITO	PR	18.139682	-66.266279
5	HELIPORT	PR33	BAYAMON	BAYAMON RGNL HOSPITAL	PR	18.36745	-66.153778
9	HELIPORT	PR53	CIDRA	SABANERA	PR	18.190833	-66.120833
10	HELIPORT	PR06	CULEBRA	HILL	PR	18.3	-65.283333
13	HELIPORT	PR26	FAJARDO	VILLA MARINA	PR	18.331342	-65.632939
14	HELIPORT	PR21	GUAYNABO	FORT BUCHANAN	PR	18.415	-66.131944
15	HELIPORT	1PR3	GUAYNABO	SAN PATRICIO	PR	18.406061	-66.106011
16	HELIPORT	2PR2	GUAYNABO	CARIBBEAN CONSTR MAIN OFFICE	PR	18.314792	-66.093517
17	HELIPORT	PR68	HATO REY	MORA DEVELOPMENT CORP	PR	18.415278	-66.075833
19	HELIPORT	PR04	HUMACAO	SQUIBB	PR	18.14885	-65.793773
20	HELIPORT	PR28	ISABELA	R.H.	PR	18.494181	-67.024172
23	HELIPORT	PR14	JAYUYA	ORAMA-IAYUYA	PR	18.211068	-66.62934
24	HELIPORT	PR15	LAJAS	PARGUERA	PR	17.975	-67.044444
27	HELIPORT	PR32	MANATI	HOSPITAL ALEJANDRO OTERO LOPEZ	PR	18.433611	-66.483611

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FOR OFFICIAL USE ONLY (FOUO)PUERTO RICO CATASTROPHIC PLANNING ANNEX
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PUERTO RICO CRITICAL TRANSPORTATION - AIRPORTS/HELIPORTS/SEAPORTS							
#	TYPE	LOCID	CITY	NAME	FAC USE	LATITUDE	LONGITUDE
29	HELIPORT	PR09	MAYAGUEZ	SABALOS WARD	PR	18.176111	-67.146667
30	HELIPORT	PR29	MAYAGUEZ	VILLAMIL-MAYAGUEZ MALL	PR	18.158889	-67.146389
31	HELIPORT	PR19	OROCOVIS	OROCOVIS HEALTH CENTER	PR	18.226623	-66.394337
34	HELIPORT	PR11	PUERTO NUEVO	REXACH OFFICE BUILDING	PR	18.415225	-66.126833
35	HELIPORT	PR08	SAN GERMAN	BAXTER-SAN GERMAN	PR	18.086072	-67.027956
36	HELIPORT	28PR	SAN GERMAN	LA CONCEPCION HOSPITAL	PR	18.108694	-67.039444
37	HELIPORT	PR22	SAN JUAN	PUBLIC BUILDINGS AUTHORITY	PR	18.449167	-66.066389
38	HELIPORT	PR42	SAN JUAN	EMPRESAS DIAZ - RIO PEDRAS	PR	18.395278	-66.051389
41	HELIPORT	PR30	SAN JUAN	PRTC OFFICE BUILDING	PR	18.411059	-66.101555
42	HELIPORT	PR31	SAN JUAN	SAN JUAN STEAM PLANT	PR	18.428003	-66.105444
43	HELIPORT	PR17	SAN JUAN	PRASA-BARBOSA	PR	18.414114	-66.043777
44	HELIPORT	PR01	SAN JUAN	HATO REY	PR	18.419167	-66.056667
45	HELIPORT	12PR	SAN JUAN	VILLAMIL-304 PONCE DE LEON	PR	18.422633	-66.057025
46	HELIPORT	PR99	SAN JUAN	PUERTO	PR	18.395556	-66.073611
47	HELIPORT	PR12	SAN JUAN	STATE GOVERNMENT NUMBER ONE	PR	18.44939	-66.066554
48	HELIPORT	PR13	SAN JUAN	INSULAR GOVERNMENT NUMBER TWO	PR	18.417447	-66.077666
49	HELIPORT	PR16	SAN JUAN	BANCO POPULAR CENTER	PR	18.427446	-66.058777
51	HELIPORT	PR02	TOA ALTA	PRASA - LA PLATA	PR	18.3525	-66.236389
12	SEAPLANE BASE	PR03	FAJARDO	FAJARDO HARBOR	PR	18.339675	-65.624606
50	SEAPLANE BASE	PR34	SAN JUAN	SAN JUAN	PR	18.457778	-66.121111

Table 3B: Critical Airport in Puerto Rico Capabilities

LUIS MUNOZ MARIN INTL (40)

LOCATION:	SAN JUAN	OWNER:	PUERTO RICO PORTS AUTH	TYPE:	AIRPORT		
FUEL TYPES:	100 115 A1+						
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
	MAJOR	MAJOR					
FREQUENCIES:	Unicom	CTAF					
	123						
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
	17	54	3	4		10	
TRANSIENT STORAGE:	HGR		OTHER SERVICES:		AFRT,CARGO,CHTR		
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE		
	40	40			ROOF-TOP		
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL
RAMP SPACE (# OF AIRCRAFT)	447,910 sq. ft.		OUTSIDE STORAGE SQ. FT.		4,225.91		
INSIDE STORAGE SPACE SQ. FT.	8,061.65		OFFICE SPACE SQ. FT.		12,844.65		
MARSHALLING YARD (ACRES)	1,615.14		SECURITY CAPABILITY		Yes		

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JOSE APONTE DE LA TORRE (8)

LOCATION:	CEIBA	OWNER:	PUERTO RICO PORTS AUTHORITY		TYPE:	AIRPORT	
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
	5						
TRANSIENT STORAGE:	TIE		OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	11000	150		ASPH-CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL
	122		185		175		338
RAMP SPACE (# OF AIRCRAFT)			OUTSIDE STORAGE SQ. FT.				
INSIDE STORAGE SPACE SQ. FT.			OFFICE SPACE SQ. FT.				
MARSHALLING YARD (ACRES)			SECURITY CAPABILITY		Yes		

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MERCEDITA (33)

LOCATION:	PONCE		OWNER:	PUERTO RICO PORT AUTH		TYPE:	AIRPORT	
FUEL TYPES:	100 A1							
REPAIR CAPACITY:	AIR FRAME		POWER PLANT					
	MINOR		MINOR					
FREQUENCIES:	Unicom		CTAF					
	122.7		122.7					
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE		JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
	16	7			7	0		
TRANSIENT STORAGE:	HGR,TIE			OTHER SERVICES:		AGRI,CARGO,CHTR,GLD,INSTR,RNTL,TOW		
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH		WIDTH			TYPE		
	60		52			CONC		
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL			DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL
RAMP SPACE (# OF AIRCRAFT)	95,158 sq. ft.			OUTSIDE STORAGE SQ. FT.		34,496		
INSIDE STORAGE SPACE SQ. FT.	150.31			OFFICE SPACE SQ. FT.		453.23		
MARSHALLING YARD (ACRES)	284.57			SECURITY CAPABILITY		Yes		

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EUGENIO MARIA DE HOSTOS (28)

LOCATION:	MAYAGUEZ	OWNER:	PUERTO RICO PORTS AUTH	TYPE:	AIRPORT		
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
	NONE	NONE					
FREQUENCIES:	Unicom	CTAF					
	122.8	122.8					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
	3	5	0	1			4
TRANSIENT STORAGE:	HGR		OTHER SERVICES:		INSTR		
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	2866	50		TURF			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL
RAMP SPACE (# OF AIRCRAFT)	71,858.35 sq. ft.		OUTSIDE STORAGE SQ. FT.		3,401.69		
INSIDE STORAGE SPACE SQ. FT.	246		OFFICE SPACE SQ. FT.		149.38		
MARSHALLING YARD (ACRES)	255.43		SECURITY CAPABILITY		Yes		

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ANTONIO RIVERA RODRIGUEZ (22)

LOCATION:	ISLA DE VIEQUES	OWNER:	PUERTO RICO PORTS AUTH	TYPE:	AIRPORT		
FUEL TYPES:	100LLA						
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
	NONE	NONE					
FREQUENCIES:	Unicom	CTAF					
	123	123					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
	4	15	0				
TRANSIENT STORAGE:	TIE		OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE		
	45	45			CONC		
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL	DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	
RAMP SPACE (# OF AIRCRAFT)	62,558.15 sq. ft.		OUTSIDE STORAGE SQ. FT.		596.15		
INSIDE STORAGE SPACE SQ. FT.	596.38		OFFICE SPACE SQ. FT.		456.14		
MARSHALLING YARD (ACRES)	124.32		SECURITY CAPABILITY		Yes		

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BENJAMIN RIVERA NORIEGA (21)

LOCATION:	ISLA DE CULEBRA	OWNER:	PUERTO RICO PORTS AUTHORITY		TYPE:	AIRPORT	
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
	NONE	NONE					
FREQUENCIES:	Unicom	CTAF					
		122.90000000000001					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
	3	0	0	0			
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE		
	40	30			CONC		
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL	DUAL-DUAL TANDEM WHEEL	
RAMP SPACE (# OF AIRCRAFT)	142,500 sq. ft.		OUTSIDE STORAGE SQ. FT.				
INSIDE STORAGE SPACE SQ. FT.			OFFICE SPACE SQ. FT.				
MARSHALLING YARD (ACRES)			SECURITY CAPABILITY		No		

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RAFAEL HERNANDEZ (3)

LOCATION:	AGUADILLA		OWNER:	PUERTO RICO PORTS AUTH		TYPE:	AIRPORT	
FUEL TYPES:	100 A1							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT						
	MAJOR	NONE						
FREQUENCIES:	Unicom	CTAF						
		124.95						
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE		JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
	29	31		11	10		13	0
TRANSIENT STORAGE:	HGR,TIE			OTHER SERVICES:		CARGO,CHTR,INSTR		
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH		WIDTH			TYPE		
	11702		200			ASPH-CONC-F		
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL			DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL
	155			235		455		
RAMP SPACE (# OF AIRCRAFT)	285,438.26 sq. ft.			OUTSIDE STORAGE SQ. FT.		66,525.10		
INSIDE STORAGE SPACE SQ. FT.	1,220.15			OFFICE SPACE SQ. FT.		371.91		
MARSHALLING YARD (ACRES)	1,499.96			SECURITY CAPABILITY		Yes		

Table 3C: Other Puerto Rico Airport Capabilities

ADJUNTAS (1)

LOCATION:	ADJUNTAS	OWNER:	ADJUNTAS AERO CLUB		TYPE:	AIRPORT	
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE		
	1600	40			ASPH		
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL

ANTONIO/NERY/JUARBE POL (4)

LOCATION:	ARECIBO		OWNER:	PUERTO RICO PORTS AUTH		TYPE:	AIRPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME	POWER PLANT						
	NONE	NONE						
FREQUENCIES:	Unicom	CTAF						
	122.8	122.8						
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:	HGR,TIE			OTHER SERVICES:		AVNCS,INSTR,PAJA		
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	3975	60			ASPH-G			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	
	22							

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BOQUERON (7)

LOCATION:	CABO ROJO	OWNER:	PALMA REALES S.E.	TYPE:	AIRPORT		
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	3000	60		ASPH			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL	DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

BOQUERON (26)

LOCATION:	LAS PIEDRAS	OWNER:	LAS PIEDRAS CONSTRUCTION CORP	TYPE:	AIRPORT		
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
	2	1	0	3			
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	60	60		CONC-G			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL	DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

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CUYLERS (52)

LOCATION:	VEGA BAJA	OWNER:	THOMAS CUYLER	TYPE:	AIRPORT		
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
	1	1		1			1
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	31	28		CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL	DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

DIEGO JIMENEZ TORRES (11)

LOCATION:	FAJARDO	OWNER:	PUERTO RICO PORTS AUTHORITY	TYPE:	AIRPORT		
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
	NONE	NONE					
FREQUENCIES:	Unicom	CTAF					
	122.7	122.7					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
		1					
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	60	60		CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL	DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

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FERNANDO LUIS RIBAS DOMINICCI (39)

LOCATION:	SAN JUAN		OWNER:	PUERTO RICO PORTS AUTHORITY		TYPE:	AIRPORT	
FUEL TYPES:	100 A							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT						
	MINOR	MINOR						
FREQUENCIES:	Unicom	CTAF						
		135.875						
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
	98	109	3	71		18		
TRANSIENT STORAGE:	HGR,TIE			OTHER SERVICES:		AFRT,AVNCS,CHTR,INSTR,RNTL		
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	60	50			CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

HUMACAO (18)

LOCATION:	HUMACAO		OWNER:	PUERTO RICO PORTS AUTH		TYPE:	AIRPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME	POWER PLANT						
	NONE	NONE						
FREQUENCIES:	Unicom	CTAF						
	122.8	122.8						
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
	4						23	
TRANSIENT STORAGE:	HGR,TIE			OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	35	35			DECK			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

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LAJAS AIRPARK (25)

LOCATION:	LAJAS		OWNER:	ARCELIO A. ESTEVES		TYPE:	AIRPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME		POWER PLANT					
FREQUENCIES:	Unicom		CTAF					
	123.05							
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
	2	1		2				
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	60	60			CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

PATILLAS (32)

LOCATION:	PATILLAS		OWNER:	PUERTO RICO PORTS AUTH		TYPE:	AIRPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME		POWER PLANT					
	NONE		NONE					
FREQUENCIES:	Unicom		CTAF					
			122.90000000000001					
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
	7						3	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	40	40			CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

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ADVANCED PUBLIC HEALTH OF ISABELA ()

LOCATION:	ISABELA	OWNER:	MUNICIPALITY OF ISABELA	TYPE:	HELIPORT		
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:	Y						
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	80	80		GRASS			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL	DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

BANCO POPULAR CENTER (49)

LOCATION:	SAN JUAN	OWNER:	BANCO POPULAR DE PUERTO RICO	TYPE:	HELIPORT		
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
	NONE	NONE					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	50	50		CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL	DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

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BAXTER-AIBONITO (2)

LOCATION:	AIBONITO		OWNER:	BAXTER HEALTHCARE CORP OF PR		TYPE:	HELIPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME		POWER PLANT					
FREQUENCIES:	Unicom		CTAF					
MEDICAL USE:	Y							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	60	60			CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

BAXTER-SAN GERMAN (35)

LOCATION:	SAN GERMAN		OWNER:			TYPE:	HELIPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME		POWER PLANT					
FREQUENCIES:	Unicom		CTAF					
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

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BAYAMON RGNL HOSPITAL (5)

LOCATION:	BAYAMON	OWNER:	SECRETARY OF HEALTH		TYPE:	HELIPORT	
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	40	40		ASPH			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL	DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

CARIBBEAN CONSTR MAIN OFFICE (16)

LOCATION:	GUAYNABO	OWNER:	CARIBBEAN INDUSTRIAL CONSTRUCTION		TYPE:	HELIPORT	
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	50	50		CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL	DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

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CENTRO MEDICO FIELD (6)

LOCATION:	SAN JUAN		OWNER:	ADMINISTRACION DE SERVICIOS MEDICOS		TYPE:	HELIPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME		POWER PLANT					
FREQUENCIES:	Unicom		CTAF					
MEDICAL USE:	Y							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	40	30			CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

EMPRESAS DIAZ - RIO PEDRAS (38)

LOCATION:	SAN JUAN		OWNER:	EMPRESAS DIAZ		TYPE:	HELIPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME		POWER PLANT					
FREQUENCIES:	Unicom		CTAF					
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	50	50			CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

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EMPRESAS DIAZ-COCO BEACH ()

LOCATION:	RIO GRANDE	OWNER:	EMP DIAZ-COCO BEACH GOLF & CC	TYPE:	HELIPORT		
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	40	40		CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL	DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

FORT BUCHANAN (14)

LOCATION:	GUAYNABO	OWNER:	US ARMY ATTN: DEP/SEC	TYPE:	HELIPORT		
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	6000	2000		WATER			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL	DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

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HATO REY (44)

LOCATION:	SAN JUAN		OWNER:	JORGE ORTIZ BRUNET		TYPE:	HELIPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME		POWER PLANT					
FREQUENCIES:	Unicom		CTAF					
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	47	30			CONC-G			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

HILL (10)

LOCATION:	CULEBRA		OWNER:	TOM & DOROTHY HILL		TYPE:	HELIPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME		POWER PLANT					
FREQUENCIES:	Unicom		CTAF					
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	5800	100			ASPH-CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

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HOSPITAL ALEJANDRO OTERO LOPEZ (27)

LOCATION:	MANATI		OWNER:			TYPE:	HELIPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME		POWER PLANT					
FREQUENCIES:	Unicom		CTAF					
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

INSULAR GOVERNMENT NUMBER TWO (48)

LOCATION:	SAN JUAN		OWNER:	P R PUBLIC BLDGS AUTH		TYPE:	HELIPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME		POWER PLANT					
	NONE		NONE					
FREQUENCIES:	Unicom		CTAF					
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
				2				
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	40	40			ROOF-TOP			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

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LA CONCEPCION HOSPITAL (36)

LOCATION:	SAN GERMAN		OWNER:	HOSPITAL LA CONCEPCION		TYPE:	HELIPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME		POWER PLANT					
FREQUENCIES:	Unicom		CTAF					
MEDICAL USE:	Y							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	36	36			CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

MORA DEVELOPMENT CORP (17)

LOCATION:	HATO REY		OWNER:	MORA DEVELOPMENT CORP		TYPE:	HELIPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME		POWER PLANT					
FREQUENCIES:	Unicom		CTAF					
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	40	40			CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

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ORAMA-JAYUYA (23)

LOCATION:	JAYUYA	OWNER:	DESARROLLADORA ORAMA,S.E.	TYPE:	HELIPORT		
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	2600	50		ASPH-G			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL	DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	
	12						

OROCOVIS HEALTH CENTER (31)

LOCATION:	OROCOVIS	OWNER:	PUERTO RICO HEALTH DEPARTMENT	TYPE:	HELIPORT		
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:	Y						
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	60	60		CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL	DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

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PARGUERA (24)

LOCATION:	LAJAS	OWNER:	ARCELIO A ESTEVES	TYPE:	HELIPORT
FUEL TYPES:					
REPAIR CAPACITY:	AIR FRAME	POWER PLANT			
FREQUENCIES:	Unicom	CTAF			
MEDICAL USE:					
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS
				1	
TRANSIENT STORAGE:			OTHER SERVICES:		
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE	
	4301	75		ASPH-G	
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL	DUAL TANDEM WHEEL	DUAL-DUAL TANDEM WHEEL
	20		40		

PR POLICE-PONCE AREA ()

LOCATION:	PONCE	OWNER:	PUERTO RICO POLICE DEPT	TYPE:	HELIPORT
FUEL TYPES:					
REPAIR CAPACITY:	AIR FRAME	POWER PLANT			
FREQUENCIES:	Unicom	CTAF			
MEDICAL USE:					
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS
TRANSIENT STORAGE:			OTHER SERVICES:		
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE	
	2000	50		ASPH-F	
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL	DUAL TANDEM WHEEL	DUAL-DUAL TANDEM WHEEL
	12.5				

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PRASA - LA PLATA (51)

LOCATION:	TOA ALTA	OWNER:	P R AQUEDUCT & WATER AUTH	TYPE:	HELIPORT		
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	60	50		CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL	DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

PRASA-BARBOSA (43)

LOCATION:	SAN JUAN	OWNER:	PUERTO RICO ACUEDUCT & SEWER	TYPE:	HELIPORT		
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	8016	150		CONC-G			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL	DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	
	100		200	350			

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PRTC OFFICE BUILDING (41)

LOCATION:	SAN JUAN		OWNER:	PR TELEPHONE CO		TYPE:	HELIPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME		POWER PLANT					
FREQUENCIES:	Unicom		CTAF					
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	5542	100			ASPH-F			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	
	52		88		160			

PUBLIC BUILDINGS AUTHORITY (37)

LOCATION:	SAN JUAN		OWNER:	PUBLIC BUILDING AUTHORITY		TYPE:	HELIPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME		POWER PLANT					
FREQUENCIES:	Unicom		CTAF					
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	40	40			CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

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PUERTO (46)

LOCATION:	SAN JUAN		OWNER:	ADMINISTRACION DE SERVICIOS MEDICOS		TYPE:	HELIPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME		POWER PLANT					
FREQUENCIES:	Unicom		CTAF					
MEDICAL USE:	Y							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	44	44			CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

R.H. (20)

LOCATION:	ISABELA		OWNER:	GILBERTO RODRIQUEZ		TYPE:	HELIPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME		POWER PLANT					
FREQUENCIES:	Unicom		CTAF					
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	2450	60			ASPH-G			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	
	20							

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REXACH OFFICE BUILDING (34)

LOCATION:	PUERTO NUEVO	OWNER:	REXACH CONSTRUCTION	TYPE:	HELIPORT		
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	6904	150		ASPH-G			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL
	85		190		285		

SABALOS WARD (29)

LOCATION:	MAYAGUEZ	OWNER:	PUERTO RICO POLICE DEPARTMENT	TYPE:	HELIPORT		
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	1200	25		ASPH			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL

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SABANERA (9)

LOCATION:	CIDRA	OWNER:					TYPE:	HELIPORT
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME	POWER PLANT						
FREQUENCIES:	Unicom	CTAF						
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

SAN JUAN STEAM PLANT (42)

LOCATION:	SAN JUAN	OWNER:	PUERTO RICO ELECTRIC POWER AUTH				TYPE:	HELIPORT
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME	POWER PLANT						
FREQUENCIES:	Unicom	CTAF						
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

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SAN PATRICIO (15)

LOCATION:	GUAYNABO	OWNER:	EMPRESAS CAPARRA, INC.		TYPE:	HELIPORT	
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	76	76		CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL	DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

SQUIBB (19)

LOCATION:	HUMACAO	OWNER:	SQUIBB MANUFACTURING, INC		TYPE:	HELIPORT	
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH		TYPE			
	40	100		CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL	DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

STATE GOVERNMENT NUMBER ONE (47)

LOCATION:	SAN JUAN		OWNER:	PR PUBLIC BLDGS AUTHORITY		TYPE:	HELIPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME	POWER PLANT						
	NONE	NONE						
FREQUENCIES:	Unicom	CTAF						
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	40	40			CONC			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

VILLA MARINA (13)

LOCATION:	FAJARDO		OWNER:	VILLA MARINA YACHT HARBOR INC		TYPE:	HELIPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME	POWER PLANT						
FREQUENCIES:	Unicom	CTAF						
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	4000	2000			WATER			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

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VILLAMIL-304 PONCE DE LEON (45)

LOCATION:	SAN JUAN		OWNER:	EMPRESAS VILLAMIL		TYPE:	HELIPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME		POWER PLANT					
FREQUENCIES:	Unicom		CTAF					
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	40	40			MATS			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	

VILLAMIL-MAYAGUEZ MALL (30)

LOCATION:	MAYAGUEZ		OWNER:	EMPRESAS PUERTORRIQUENAS		TYPE:	HELIPORT	
FUEL TYPES:								
REPAIR CAPACITY:	AIR FRAME		POWER PLANT					
FREQUENCIES:	Unicom		CTAF					
MEDICAL USE:								
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS	
TRANSIENT STORAGE:				OTHER SERVICES:				
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE			
	4998	100			ASPH-G			
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL	
	85		108		170			

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FAJARDO HARBOR (12)

LOCATION:	FAJARDO	OWNER:	V.I. SEAPLANE SHUTTLE INC	TYPE:	SEAPLANE BASE		
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
	NONE	NONE					
FREQUENCIES:	Unicom	CTAF					
	122.8						
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE		
	3600	75			ASPH-F		
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL
	12.5						

SAN JUAN (50)

LOCATION:	SAN JUAN	OWNER:	SEABORNE VIRGIN ISLANDS, INC	TYPE:	SEAPLANE BASE		
FUEL TYPES:							
REPAIR CAPACITY:	AIR FRAME	POWER PLANT					
FREQUENCIES:	Unicom	CTAF					
MEDICAL USE:							
AIRCRAFT INVENTORY:	SINGLE ENGINE	MULTI ENGINE	JET ENGINE	HELICOPTER	GLIDERS	MILITARY	ULTRA LIGHTS
TRANSIENT STORAGE:				OTHER SERVICES:			
RUNWAY PHYSICAL CHARACTERISTICS:	LENGTH	WIDTH			TYPE		
	60	50			CONC		
RUNWAY WEIGHT BEARING CAPACITY:	SINGLE WHEEL		DUAL WHEEL		DUAL TANDEM WHEEL		DUAL-DUAL TANDEM WHEEL

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Table 3D: Seaport Capabilities

Seaport Name	Port Location	Port Type
San Juan	San Juan	Sea Port Cargo/Passenger
Cruise Ships, Ferries, tankers, Container ships, Cargo ships, Caribbean Cargo Ships, Barges. Broad and extensive platforms for container handling and operation of barges type RO / RO. Port contains fixed and mobile container cranes.		
<ul style="list-style-type: none"> • Cranes and lifts 0-100+ (ton lifts) • 22,700 feet of dockage (34 berths and 46 piers). • 1,100,000 square feet of storage • 1,500,000 square feet of open space • 108 cords of container space • Refueling capabilities via barge • Intermodal capability by trucking lanes. 		
Puerta de Tierra and Isla Grande (Port of San Juan)	San Juan	Sea Port/Cargo
Measures 590 feet long by 390 feet wide and can accommodate 3 berths for boats. It has 210,000 square feet of open space. Water and electricity available.		
<ul style="list-style-type: none"> • Port contains fixed and mobile container cranes. 		
Puerto Nuevo (Port of San Juan)	San Juan	Sea Port/Cargo
Loading docks 600 feet in length except for the spring L 900 feet in length. Broad and extensive platforms for container handling and operation of barges type RO / RO. Port contains fixed and mobile container cranes.		
<ul style="list-style-type: none"> • Refueling capabilities via barge • Intermodal capability by trucking lanes. 		
Port of Fajardo	Fajardo	Harbor
Passenger Port (Ferries) with Refueling capabilities via barge and intermodal capability by trucking lanes.		
<ul style="list-style-type: none"> • Channel Depth: 21 - 25 feet 6.4 - 7.6 meters • Anchorage depth: 16 - 20 feet 4.9 - 6.1 meters 		
Roosevelt Roads Naval Station	Ceiba	Sea Port
Closed, Infrastructure is still in place. Dock runway Length is 11,000 feet.		
Port of Yabucoa	Yabucoa	Seaport
Cargo Port (Tankers). Refueling capabilities via barge. Intermodal capability by trucking lanes.		
<ul style="list-style-type: none"> • Channel Depth: 46 - 50 feet 14 - 15.2 meters • Anchorage Depth: 46 - 50 feet 14 - 15.2 meters 		
Port of Aguirre	Aguirre	Pier, Jetty or Wharf
Barges and tug boats. Refueling capabilities via barge. Intermodal capability by trucking lanes. Capable of handling and operation of barges type RO / RO.		
Channel Depth: 16 - 20 feet 4.9 - 6.1 meters		
Port of Ponce	Ponce	Harbor
Cruise ships, cargo ships, recreational vessels. Capable of RO/RO operations. Refueling capabilities via barge. Intermodal capability by trucking lanes. Port contains fixed and mobile container cranes.		
<ul style="list-style-type: none"> • Cranes and lifts 0-49 (ton lifts) and 100 + (ton lifts) • Channel Depth: 21 - 25 feet 6.4 - 7.6 meters • Anchorage Depth: 26 - 30 feet 7.1 - 9.1 meters 		
Port of Tallaboa	Tallaboa	Pier, Jetty or Wharf

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Tankers and barges. Refueling capabilities via barge. Intermodal capability by trucking lanes.		
Port of Guayanilla	Guayanilla	Sea Port
Tankers and barges with refueling capabilities via barge. Intermodal capability by trucking lanes.		
<ul style="list-style-type: none"> • Anchorage depth:11m - 12.2m • Dock length: Over 500 feet • Cargo pier depth:7.1m - 9.1m 		
Port of Guanica	Guanica	Harbor
Cargo ships and recreational vessels. Refueling capabilities via barge. Intermodal capability by trucking lanes.		
<ul style="list-style-type: none"> • Anchorage depth:6.4m - 7.6m • Cargo pier depth:7.1m - 9.1m • Dock length: Over 500 feet • Cranes 0-24 Ton Lifts 		
Port of Mayaguez	Mayaguez	Sea Port
Ferries and cargo ships. Refueling capabilities via barge. Intermodal capability by trucking lanes.		
<ul style="list-style-type: none"> • 4 Wharfs • Cranes 0-24 Ton Lifts • Channel depth 16 feet - 20 feet 		
Port of Arecibo	Arecibo	Pier, Jetty or Wharf
Barges and tug boats. Refueling capabilities via barge. Intermodal capability by trucking lanes.		
<ul style="list-style-type: none"> • Anchorage depth:14m - 15.2m • Cargo pier depth:6.4m - 7.6m 		

Table 3E: Passenger and Cargo Carriers utilizing Luis Munoz Marin (San Juan) International Airport

Passenger Airlines	Cargo Airlines
<ul style="list-style-type: none"> • Air Canada (Canada) • Air Caraibes (Caribbean) • Air Saint Thomas (Caribbean - Virgin Islands) • Air Sunshine (Caribbean - PR - Virgin Islands) • American Airlines (Caribbean - Dominican Rep. - Lesser Antilles - Spain - USA - Virgin Islands) • American Eagle (Caribbean - Dominican Rep. - PR) • American Trans Air (ATA, suspending services in November 2005) (USA) • Cape Air (PR - Virgin Islands) • Caribbean Sun (Caribbean - Virgin Islands) • Continental Airlines (USA) • Copa (Panama) • Delta Airlines (USA) • Iberia (Dominican Rep. - Spain) • Isla Nena Air (PR - Virgin Islands) • Jet Blue (USA) • Liat (Caribbean - PR - Virgin Islands) • Northwest (USA) • Pan American (Dominican Rep. - USA) • Song (Operated by Delta Airlines, transforming into Delta) (USA) • Spirit Airlines (USA) • Sun Country (USA) • Ted by United (USA) • Transmeridian (USA) • United (USA) • USAirways (USA) • Vieques Air Link (PR - Virgin Islands) 	<ul style="list-style-type: none"> • Airborne Express (now DHL) • American Airlines Cargo • American Transair Cargo (ATACargo, suspending services in November 2005) • Amerijet • Arrow Air • Atlas • Aero Borinquen, Inc. • Caribbean Trans SVC • Condor Cargo • Continental Cargo • Copa Cargo • Delta Airlines Cargo • DHL • Express Net Airlines LLC • FedEx • Four Star • Iberia Cargo • Liat • Martinair • Merlin Express • Mountain Air • Northwest Cargo • Spirit Airlines Cargo • Sundance Air • Tampa Air • Tol Air • Trade Winds • United Airlines Cargo • UPS • USAirways Cargo

Table 3F: Transportation Contracts Servicing Puerto Rico

Adcom Worldwide	
Air Freight	Contracted Carriers
Air Passenger	N/A
RORO	Access to vessels possible; may require a bit more time
Maritime Shipping	FCL and LCL
LTL On	N/A
Truck Load	N/A
Warehousing	Access to various partners with warehousing
Other	N/A
AFC Worldwide –dba- RL Global Logistics	
Air Freight	Contract Vendors Commercial, Charter, Cargo
Air Passenger	N/A
RORO	Contract Vendors
Maritime Shipping	FCL and LCL via contract vendor
LTL On	Contract Vendors
Truck Load	Contract Vendors
Warehousing	Contract Vendors
Other	N/A
CH Robinson Worldwide Inc.	
Air Freight	Contracts with freighter aircraft
Air Passenger	Contracts with passenger aircraft
RORO	Contracts and access to RORO and maritime shipping
Maritime Shipping	Contracts with Maritime and are a licensed NVOCC. LCL: build our own consolidations.
LTL On	Access to vendors on location as well as office on location.
Truck Load	Access to vendors on location as well as office on location.
Warehousing	Access to warehouse vendors
Other	Experience with Hacienda (PR Customs.) Office on location.
Crowley Logistics	

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PUERTO RICO CATASTROPHIC PLANNING ANNEX
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Air Freight	Contracted vendors
Air Passenger	N/A
RORO	8 Vessels with 3 weekly sailings ex Jax and 1 weekly sailing ex NJ with total capacity of 1,460 ro/ro trailers per week
Maritime Shipping	45,302 maritime equipment
LTL On	100 trucks owned, access to 5 vendors (40 trucks)
Truck Load	100 trucks owned access to 9 vendors (150 trucks team and single)
Warehousing	N/A
Other	Terminal capacity in PR of 85 acres, 2680 trailer slots
Dolphin Forwarding, Inc.	
Air Freight	N/A
Air Passenger	N/A
RORO	4 vessels
Maritime Shipping	N/A
LTL On	12 trucks, 6 tractors
Truck Load	12 trucks, 6 tractors
Warehousing	15,000 sq. ft.
Other	Ocean Freight / Barge (2 weekly), Service from Elizabeth, NJ; Jacksonville, FL; San Juan, PR
FreightCo Logistics	
Air Freight	Full services, various aircraft
Air Passenger	Full services, various aircraft
RORO	Full services, access to 6 carriers
Maritime Shipping	Container Load, LCL
LTL On	access to >5 Vendors (>250 Trucks)
Truck Load	access to >5 Vendors (>250 Trucks)
Warehousing	50-75,000 sf
Other	Air & ocean charter possibility
General Freight Services	
Air Freight	Service offered
Air Passenger	Service offered

RORO	Service offered
Maritime Shipping	Service offered
LTL On	Service offered
Truck Load	Service offered
Warehousing	Service offered
Other	N/A
John S. Connor, Inc.	
Air Freight	Scheduled service via freighters and wide body
Air Passenger	Charter Only
RORO	Commercial shipping line
Maritime Shipping	FCL and LCL
LTL On	N/A
Truck Load	N/A
Warehousing	As Needed
Other	Air Contacts: Dina Duffy (703) 574-6127 / (571) 331-0637
KALITTA CHARTERS, LLC	
Air Freight	Boeing 727s, 747s, DC-9s, Falcon 20s, Lear jets
Air Passenger	Learjet 20 & 30 Series, Falcon 20
RORO	N/A
Maritime Shipping	N/A
LTL On	Can arrange through multiple vendors
Truck Load	Can arrange through multiple vendors
Warehousing	Can arrange through multiple vendors
Other	N/A

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Landstar	
Air Freight	Contract Vendors
Air Passenger	YES
RORO	YES
Maritime Shipping	FCL and LCL
LTL On	Use local agents
Truck Load	Same
Warehousing	YES
Matson , Matson Integrated Logistics SCACS: MIOS and MATS	
Air Freight	No service
Air Passenger	No service
RORO	No service
Maritime Shipping	No service
LTL On	No service
Truck Load	No service
Warehousing	No service
Northern Neck Transfer, Inc.	
Air Freight	3 Hawker 800 9 PAX, 1 Falcon 50 9 PAX, 1 Chieftain turbo prop 5 PAX
Air Passenger	9 PAX
RORO	Access through commercial shipping lines
Maritime Shipping	FCL and LCL
LTL On	(20) 2008 Tractors/ (40) Roller-bed Vans, (2) RGNs, (5) 53 ft Step-decks, (5) 53 ft Flatbeds, (10) 48 ft Flatbeds, 3 P/U trucks
Truck Load	(20) 2008 Tractors/ (40) Roller-bed Vans, (2) RGNs, (5) 53 ft Step-decks, (5) 53 ft Flatbeds, (10) 48 ft Flatbeds, 3 P/U trucks
Warehousing	No Service
Other	(3) 10,000 all terrain forklift trucks, (1) 20,000 lb all terrain, 25,000 gallon portable diesel fuel tank, (1) Gas boy diesel fuel dispensing unit, (3) 40 KW CAT SP Standby Generators, (2) 80 KW CAT 3 phase standby generators, (20) solo CDL Drivers, (4) team CDL drivers, (2) CAT 450E backhoe Loaders, (4) multi terrain CAT 257B Series 2 loaders, (4) CAT 226B skid loaders, (1) CAT 962H wheel loaders, (3) CAT 973D loaders
Panther Expedited Services	

Air Freight	All Types
Air Passenger	No Service
RORO	All Types
Maritime Shipping	All Types
LTL On	No LTL facilities
Truck Load	No service
Warehousing	None
Other	Air Charter, AF, OCEAN
R K Group	
Air Freight	Full services, various aircraft
Air Passenger	YES - hand carries or under belly.
RORO	YES via commercial shipping lines - call for service.
Maritime Shipping	FCL and LCL - please call for service
LTL On	Vendors on location via network partners
Truck Load	Vendors on location via network partners
Warehousing	Warehouses on location via network partners
Other	Judy Primary First Call; David Second Call
Security Storage Co. of Washington	
Air Freight	YES
Air Passenger	No Service
RORO	YES
Maritime Shipping	Container Load, LCL
LTL On	YES
Truck Load	YES
Warehousing	1-25000 sq ft
Other	N/A

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Tech Transport Inc	
Air Freight	Can handle domestic and international air
Air Passenger	Can handle domestic and international air
RORO	No Service
Maritime Shipping	We can provide this service
LTL On	Full LTL service available both domestic and international
Truck Load	Over 23 years experience handling all types of truckload- van, flatbed, reefer, specialized over dimensional
Warehousing	This service can be provided
Other	We provide any type of transportation service with the exception of small package and dump trucks. We have been in business since 1983 and are considered a Small Business
UPS Freight	
Air Freight	N/A
Air Passenger	N/A
RORO	N/A
Maritime Shipping	N/A
LTL On	100% coverage of Puerto Rico.
Truck Load	N/A
Warehousing	N/A
YRCW	
Air Freight	Contracted Vendors
Air Passenger	Contracted Vendors
RORO	N/A
Maritime Shipping	N/A
LTL On	Own assets to consol port + LCL
Truck Load	Own assets to port + FCL
Warehousing	Case by case basis based on warehouse availability
Other	With our vast assets and contracted carrier partnerships, we welcome the opportunity to bid on any equipment type.

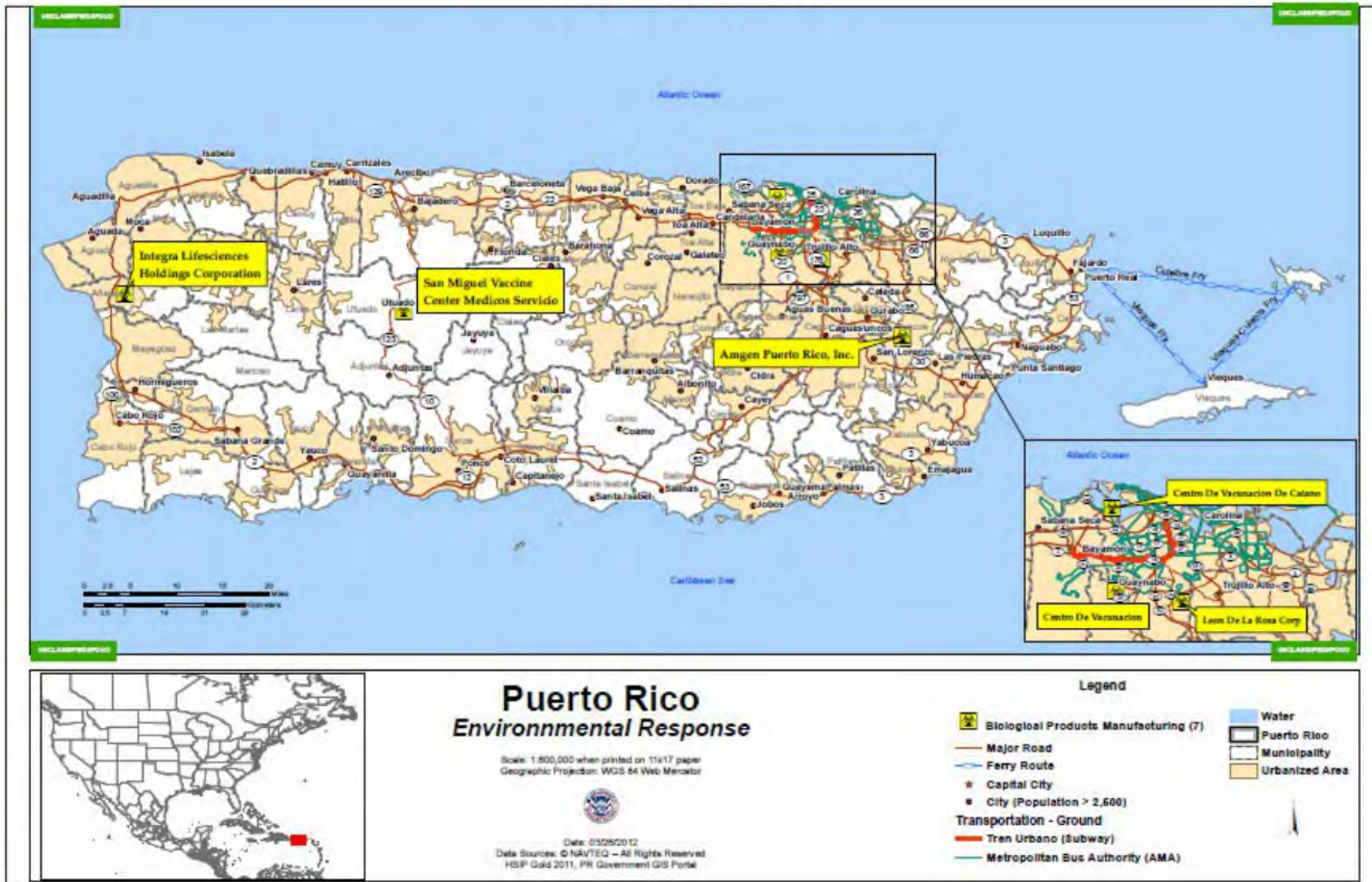
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4.0 ENVIRONMENTAL RESPONSE/HEALTH AND SAFETY

Graph 4A: Bio-Products



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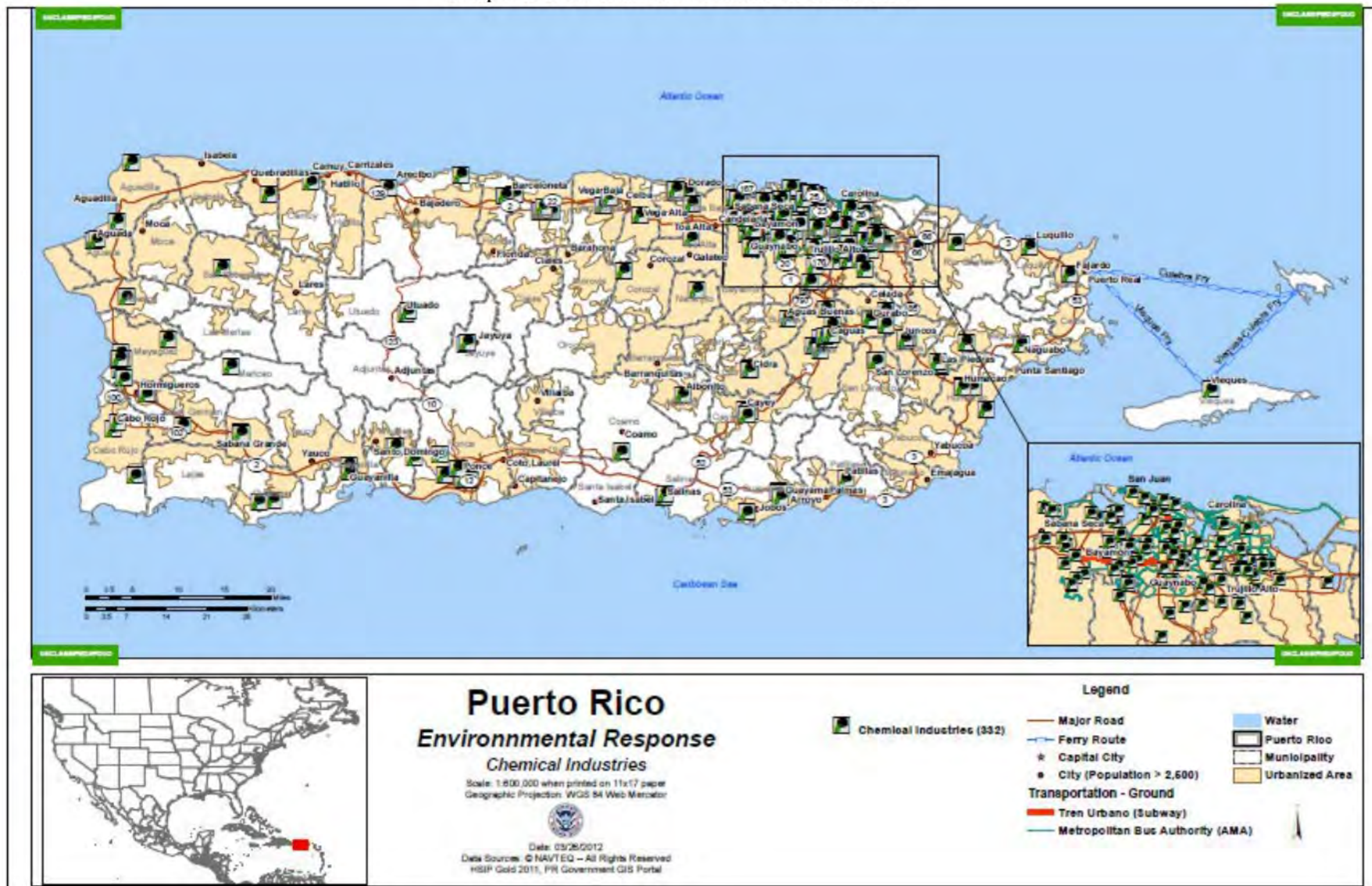
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PUERTO RICO CATASTROPHIC PLANNING ANNEX
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Table 4A: Puerto Rico Bio-Product Manufacturing Data

<i>Biological Products Manufacturing (7)</i>				
<i>Business Name</i>	<i>Address</i>	<i>City</i>	<i>Latitude</i>	<i>Longitude</i>
Amgen Manufacturing Limited	Road 31 Km 24 6 St Ro	Juncos	18.2228	-65.9173
Amgen Puerto Rico, Inc.		Juncos	18.22587	-65.9177
Leon De La Rosa Corp	6 Calle 3 Rey	Guaynabo	18.346782	-66.044097
San Miguel Vaccine Center Medicos Servicio	5 Calle Washington	Utuado	18.26434	-66.70133
Centro De Vacunacion	70 Calle Carazo	Guaynabo	18.357499	-66.110806
Integra Lifesciences Holdings Corporation	Km 1/2 RR 402	Anasco	18.29098	-67.14012
Centro De Vacunacion De Catano	63 Ave Barbosa	Catano	18.443616	-66.114826

Graph 4B: Puerto Rico Chemical Industries



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PUERTO RICO CATASTROPHIC PLANNING ANNEX
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Table 4B: Puerto Rico Chemical Industries Data

Chemical Industries (332)				
Business Name	Address	City	Latitude	Longitude
AMO Puerto Rico Manufacturing Inc	Carr 402 Km 42 Zona Indus St CA	Anasco	18.29098	-67.14012
Brite Star Chemical Company Inc	1135 Wm N Brnen G Indl PA	Mayaguez	18.19545	-67.15037
Bristol Caribbean Inc	Zona Libre 7 Guanajibo St Zona Lib	Mayaguez	18.194425	-67.14484
Integra Lifesciences Holdings Corporation	Km 1/2 RR 402	Anasco	18.29098	-67.14012
One Step Technology Corp	8 Calle 1	Bayamon	18.1767	-67.149325
Akzo Nobel Paints LLC	State Road 2 K 129 2	Aguadilla	18.409	-67.1546
Eli Lilly Industries, Inc	Km 146 7 RR 2	Mayaguez	18.19545	-67.15037
Unlimited Exterminating	Kilometer 13 1 RR 103	Cabo Rojo	18.0831	-67.16
Mistolin Caribe Inc	Km 26 HM 3 Luchett RR 28	Bayamon	18.224565	-67.074711
Bristol-Myers-Squibb Laboratories Co	Foreign Trade Zone # 7	Mayaguez	18.2034	-67.1488
Ltc Products Corporation	Mayaguez Mall	Mayaguez	18.16326	-67.14333
Kelly A Lowder	131 Calle U	Aguadilla	18.5027	-67.1319
B-C-P Sciences Consulting Corp	A26 Urb Moropo	Aguada	18.3803	-67.19
Casa Agricola Fantauzzi	59 Calle Mj Cabrero	San Sebastian	18.33694	-66.99024
PPG Industries, Inc.	177 Ave William Dunscombe	Mayaguez	18.19135	-67.15211
Super A Fertilizer Works Inc	Carr 2 Km 146 7 Bo Sbnetta St CA	Mayaguez	18.19545	-67.15037
Caribbean Dairy Institute, Inc	La Quinta Industrial	Mayaguez	18.19545	-67.15037
Lifescan, Inc.	Km 0 8 Bo Pdrnales RR 308	Cabo Rojo	18.09462	-67.15352
Transworld Industries Corp	El Rayo Industrial Park	Sabana Grande	18.07837	-66.96088
Fenwal International Inc	Carr 122 Km 0 5 St CA	San German	18.08937	-67.05153
Cooperativa Agricola Aguadana	69 Calle Estacion	Aguada	18.380216	-67.191693
Fenwal International Inc	Km 0 8 RR 357	Maricao	18.181605	-66.975975
Henkel Puerto Rico Inc	9 Ave Vicente Quilinchini	Sabana Grande	18.07695	-66.96059
Arcam Pharmaceutical Corporation	Carr 345 Km 1/5 Bo Jgitas St CA	Hormigueros	18.13808	-67.10807
Cooperativa De Farmacias Puertorriqueas (coopharma)	Carr 115 Km 24 8 Bo Asoma St CA	Aguada	18.38125	-67.1867
One Stop Prescription Farmacias	100 Km 7 1 Bo Mirador 71 Bo	Cabo Rojo	18.0104	-67.126405
Corazon Farmacia Sagrado	Calle Pedro De Acosta	Sabana Grande	18.076317	-66.959222
Agrocentro La Fe	CARR 114 HORMIGUERO CERRA	Hormigueros	18.13808	-67.10807
Alba Labs Inc	Gurabo Indus Park RR 189	Gurabo	18.2536	-65.9717
Akzo Nobel Paints LLC	2 Del Prque Bleoriopy Ave	San Juan	18.451844	-66.06273
H. B. Fuller Company	International Trade Ctr	Guaynabo	18.4485	-66.0756
Rosalia Negron De Garcia	12 Calle Hostos S	Guayama	17.98559	-66.11662
Amanda Larragoity	Camino Del Mar 2002 Plyr St Camino Del M	TOA Baja	18.43771	-66.2528
Centro De Vacunacion	70 Calle Carazo	Guaynabo	18.357499	-66.110806
Lehigh Press Pharmaceutical Products, Inc.	Km 12 4 RR 189	Juncos	18.22638	-65.91286
Green Energy Fuel, Inc	<Null>	Quebradillas	18.45164	-66.916276
Globepxx.com Inc	654 Ave Munoz Rivera	San Juan	18.410443	-66.056688

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FOR OFFICIAL USE ONLY (FOUO)PUERTO RICO CATASTROPHIC PLANNING ANNEX
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Chemical Industries (332)				
Business Name	Address	City	Latitude	Longitude
L'Oreal Caribe, Inc.	Reliable Building Ofc	San Juan	18.4362	-66.0851
Johnson & Johnson Consumer Co. (p.r.) Inc.	Km 20 3 RR 183	Las Piedras	18.18304	-65.86418
Cw Management, Corp.	If48 Ave Lomas Verdes	Bayamon	18.3805	-66.1465
Novartis Corporation	Lots No 1 & 2 # 12	Cidra	18.177575	-66.16202
Tapi Puerto Rico, Inc.	Km 143 0 RR 3	Guayama	17.97614	-66.11354
Tapi Puerto Rico, Inc.	Hwy No 3 Km 76 3	Humacao	18.11468	-65.791482
Pfizer Inc.	140 Carr Km	Barceloneta	18.4528	-66.53074
Frenda Corporation	Calle A Lt 7 Prq Ind Ls St Calle A Lo	Trujillo Alto	18.348	-66.026973
Cabo Rojo Gas	32 Calle Brvntura Qirones	Guanica	17.9709	-66.909
Rios, Nester	Bo Mnte Snto RR 200	Vieques	18.14554	-65.43876
Praxair Puerto Rico B.V.	Int Rd 931 RR 189	Guarabo	18.25785	-65.97257
Occidental Chemical Corp.	654 Ave Munoz Rivera	San Juan	18.410443	-66.056688
Uniblend Manufacturing Corp	Carr 744 Km 1 1 Machete L St CA	Guayama	17.97614	-66.11354
Pure Med Corp	107 El Tuque Indus Park	Ponce	18.0114	-66.6404
Casas Interamericana	350 Calle Fuerte APT 4	San Juan	18.445203	-66.064541
GE Healthcare Puerto Rico	792 Ave San Patrcio Urb	San Juan	18.396905	-66.094993
Coqui Radio Pharmaceuticals, Corp.	Urb Santa Rosa # 11	Bayamon	18.444515	-66.11186
Federal International Chemical and Supply Corporation	Rd 190 Km 1 Hm 5	Carolina	18.36473	-65.97227
Wyeth-Ayerst Lederle Inc	Ave 65th Inf Km 9 HM 7	Carolina	18.38288	-65.98058
Flar Medicine of Puerto Rico Inc	330 Ave Santiago	Ponce	18.0428	-66.6477
Merck Sharp & Dohme Corp.	Puerto Rico Industrial PA	Carolina	18.39306	-65.97369
Somerset Caribe, Inc	Caguas W RR 156	Caguas	18.4287	-66.0514
Merck Sharp & Dohme Corp.	60.3 Calle 2	Barceloneta	18.44936	-66.54586
Master Products Inc	Km 20 6 Bo Cndelaria RR 2	TOA Baja	18.447507	-66.187144
Nalco Company	Urb STA Juan 2 Cle 12 J 5 St Urb Santa Ju	Caguas	18.2323	-66.0338
Isabel Hernandez	Calle 16 Urb River Vw	Bayamon	18.41595	-66.186875
Lilliam Casanova Ortiz Botanicas	4 Calle Industria	Dorado	18.457942	-66.258839
Baxter Healthcare Corporation	250 Rd 144	Jayuya	18.2181	-66.6052
Alara Pharmaceutical	1 Kilometer 33 3 Angora	Caguas	18.35243	-65.98901
Cardinal Health 302 LLC	Road 138 Lot 14 Bldg 5	Las Piedras	18.1823	-65.86339
PPG Industries, Inc.	<Null>	Bayamon	18.444515	-66.11186
Legacy Phamaceuticals	Bo Mariana Rd 909	Humacao	18.15001	-65.81229
Pfizer Pharmaceuticals Inc	Km 58 HM 2 RR 2	Barceloneta	18.4528	-66.53074
Merisant PR Inc	Metro Offc Pk Dmlr Chrysl	Guaynabo	18.40921	-66.10128
Colloids & Chemicals Corp	PO BOX 4063	San Juan	18.4127	-66.1214
The Gordon Group Inc	Bo Palo Uprr # 50	Manati	18.4242	-66.4912
Laser Products Inc.	Km 19 1 RR 185	Juncos	18.22638	-65.91286
Noy Miguel A Laboratorios Patologia	Edif Capital Center I	San Juan	18.4273	-66.0634
Hcm PR Inc	Carr 165 Km1	Guaynabo	18.40921	-66.10128

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Chemical Industries (332)				
Business Name	Address	City	Latitude	Longitude
Pfizer Pharmaceutical LLC	99 Calle Jardines	Caguas	18.2276	-66.0517
Centro De Vacunacion De Catano	63 Ave Barbosa	Catano	18.443616	-66.114826
Patheon Puerto Rico, Inc.	65th Infanteria Km 12 6	Carolina	18.3977	-65.9863
Facades Inc	Urb Industrial Jlio N Mtos	Carolina	18.38288	-65.98058
Pintura Sur De Puerto Rico	Plaza Ch De CP 2 Esq	Guaynabo	18.43782	-66.120226
P R Patheon LLC	2 Calle Aquamarina Villa	Caguas	18.2466	-66.0327
Cotto Gas	5 Calle Luis Barreras N	Cayey	18.11502	-66.17055
Bristol-Myers Barceloneta Inc	Km 56 HM 4 RR 2	Barceloneta	18.4528	-66.53074
NCH Corporation Puerto Rico	Km 12 HM 5 RR 3	Carolina	18.38288	-65.98058
Abbott Laboratories	Km 58 0 Cruce Davila RR 2	Barceloneta	18.44936	-66.54586
Bioprob De PR Inc	Ave Nereidas 70 Ste 301	Catano	18.444515	-66.11186
Miguel Maldonado	Road 183 Km 7 Hm 7	San Lorenzo	18.19083	-65.96526
Baxter Healthcare Corporation	Km 0 3 RR 721	Aibonito	18.13689	-66.26746
I P R Pharmaceutical, Inc	Sabana Gardens Ind Park	Carolina	18.39306	-65.97369
Bull Bond Manufacturing Corp	Km 0 2 Rio Canas I RR 175	Caguas	18.27194	-66.04296
Commercial Chemical Corporation	<Null>	TOA Baja	18.4448	-66.1799
Lane Hair and Scalp Consultants of Puerto Rico Incorporated	309 Calle De Diego Ste12	San Juan	18.398389	-66.042226
Akzo Nobel Paints LLC	9 Carr 3 Km 44 9	Fajardo	18.32812	-65.66045
Teatrocentro Inc	Ave San Patricio	Guaynabo	18.401826	-66.125311
Blu Caribe, Inc.	Km 0 8 Mmeyer Ward RR 698	Dorado	18.45988	-66.278
Mm Naturalize Naturales Productos Salud	108 Calle Diez De Andino	San Juan	18.451242	-66.05977
Corange International	2875 Ponce Byp	Ponce	18.0114	-66.6404
Omega & Delta Co., Inc.	8 Carr 887 Km0	Carolina	18.3783	-65.9742
Atlantic Container Corporation	Road 887 Km 0 HM 8	Carolina	18.38288	-65.98058
4everclean Energy Group	Calle Del Recreo C6 Urb C	Caguas	18.3642	-66.0194
Catalent Pharma Solutions, Inc.	Road 686 Km 0 5 St Ro	Manati	18.4242	-66.4912
Biovail Laboratories Inc	Sabana Abajo Indus Park	Carolina	18.42672	-65.98084
Roche Diagnostics Corporation	<Null>	Ponce	18.0045	-66.61193
Legacy Pharmaceuticals Puerto Rico, LLC	Hc 1 Box 16625	Humacao	18.15078	-65.82849
Gasco Industrial Corp	Calle A Lot E Rincon Ind	Gurabo	18.25785	-65.97257
Patheon Puerto Rico, Inc.	Tail Rd 670 KI 2/7	Manati	18.42619	-66.48495
NW Inks & More	106 Ave Barbosa	Catano	18.441848	-66.117576
Bio-Tech Logistics, Inc	Carr193 Km141 Commercial	Luquillo	18.36995	-65.72368
Legacy Pharmaceuticals	909 Bo Mariana Rd	Humacao	18.15001	-65.81229
Ortho Biologics, LLC	RR 2	Manati	18.4283	-66.48884
Botanica Divino Nino Jesus	100 Calle Calma	San Juan	18.450653	-66.054143
Riviv, L.L.C.	32a Blq 3e 25 Terrazas D	TOA Alta	18.38359	-66.25378
U S Sealers Corporation	Calle 76 Block 114 25 St Cal	Carolina	18.38821	-65.96424

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Chemical Industries (332)				
Business Name	Address	City	Latitude	Longitude
Coty US LLC	Urb Industrial Bay 8th St # 8	San Juan	18.38816	-66.04533
Luxevan Corporation	Km 2 HM 0 RR 869	Catano	18.4422	-66.13988
E. I. Du Pont De Nemours and Company	A&b St Maro Juan Indst PA	San Juan	18.371092	-66.026084
West Indian Product Corp	272 St Country Club ldp	Carolina	18.39863	-65.9839
Watson Pharmaceuticals, Inc.	State Road 3 Km 76 St State Ro	Humacao	18.1493	-65.8255
L'Atelier D'Formulation, Inc.	Carr 715 Km 4 4 SEC Ln	Cayey	18.11208	-66.1618
Eli Lilly Industries, Inc.	65th Inf Km 12 6	Carolina	18.38288	-65.98058
Air Products of Puerto Rico Inc	1569 Calle Alda Ste 202	San Juan	18.38528	-66.06601
Alberto Culver (pr), Inc	Carr 192 Km 0 5 St CA	Naguabo	18.21688	-65.73639
Nissan Laboratories Inc	Iturregui Ave Cnr B St	Carolina	18.4135	-66.0079
Verpas Products Inc	Julio N Matos Industrial	Carolina	18.383623	-65.991727
Vivo Recycling, Inc.	Rd No 3 Km 152 6	Salinas	17.9763	-66.2971
Cargill, Incorporated	Km 1 0 Barrio Higu RR 652	Arecibo	18.46225	-66.72906
Air Products and Chemicals, Inc.	State Rd 127 Km 12 7	Guayanilla	18.017334	-66.790263
First Pharmacy 5	653 Ave Ponce De Leon	San Juan	18.457298	-66.085871
PPG Industries, Inc.	<Null>	Caguas	18.2323	-66.0338
Viiv Healthcare Puerto Rico LLC	90 Carr 165 Ste 800	Guaynabo	18.4151	-66.108
San Miguel Vaccine Center Medicos Servicio	5 Calle Washington	Utuado	18.26434	-66.70133
Rivera Chinea, Mario	Plaza Rio Hondo	Bayamon	18.4095	-66.1652
Llorens Pharmaceutical Corp	Km 341 Indus FL 2 RR 1	Caguas	18.2149	-66.0625
Lobo Films Inc.	1937 Calle Diego	San Juan	18.444515	-66.11186
Creative Medical Corporation	Carr 172 Km 9 HM 4 Bo Ba St CA	Cidra	18.177575	-66.16202
Bristol-Myer Squibb Manufacturing Company	State Rd 3 Km 77 5	Humacao	18.1521	-65.8288
Seyer Pharmatec, Inc.	Carr Estal 172 Km 2 HM 5 St Carr Estat	Caguas	18.31565	-66.067835
The Clorox Company of P R Inc	Km 27 1 Ramal 798 Km St	Caguas	18.444515	-66.11186
Union Carbide Caribe LLC	173 Carr 127	Penuelas	18.0566	-66.721
Pan American Grain Company Inc	Km 1/9 RR 333	Guanica	17.96926	-66.93219
Pfizer Pharmaceutical LLC	Km 1/9 Rd 689 # 19	Vega Baja	18.43595	-66.39178
Canmar Products, Inc.	Km 0 HM 5 My Ward RR 835	Guaynabo	18.36829	-66.10103
Abbott Health Products, Inc	Carr 2 Km 58 2 St CA	Barceloneta	18.44936	-66.54586
Economy Products Corp	Km 18 8 RR 167	Bayamon	18.37497	-66.15483
Combe Products, Inc.	El Duque Und Park RR 971	Naguabo	18.220156	-65.822322
Agro Creations Inc	1015 Ave Hostos	Ponce	18.02068	-66.61777
Industrias Glidden	Cond Park CT	Rio Piedras	18.3747	-66.0565
Warner Chilcott Company, LLC	Union St Rd 195 Km 1 1 St Union Street	Fajardo	18.32812	-65.66045
Ayerst-Wyeth Pharmaceuticals Incorporated	Rd Km 142 HM 1 RR 3	Guayama	17.982744	-66.107367
Industrial Chemicals Corp	Km 19 HM 1 RR 127	Penuelas	18.05764	-66.71777
Hepa Filter Certification Inc	988 Muoz Rivera Ave	San Juan	18.444515	-66.11186

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Chemical Industries (332)					
Business Name	Address	City	Latitude	Longitude	
Proctor & Gamble Health Products Inc	7000 St Km 2 HM 3 RR 735	Cayey	18.11208	-66.1618	
Enco Manufacturing Corp.	43 Calle Baldorioty	Cidra	18.178	-66.1613	
U S Inspection Services De PR Inc	Bo Indus Park Bldg I	Bayamon	18.39792	-66.15615	
Perma Coat Corporation	Rd 833 Km 11 Hm 8	Guaynabo	18.437801	-66.120286	
Harbor Engineering Construction, Corp	Km 59 3 Bo Tiburon RR 2	Barceloneta	18.44936	-66.54586	
Ciba-Geigy Caribe Inc	Km 34 HM 2 Zfiro St RR 1	Caguas	18.2072	-66.0518	
Mylan Inc	El Jibaro Ave	Cidra	18.1793	-66.1611	
Pfizer Pharmaceutical LLC	Road 2 Km 58 2 St Ro	Barceloneta	18.44936	-66.54586	
Ceph International Corp	Ave 65 Infanteria Km13.0	Carolina	18.38288	-65.98058	
Dfb Pharmaceuticals, Inc/ A Division of Healthpoint International, Inc.	1418 Calle Wilson PH 1	San Juan	18.452269	-66.06688	
Du Pont Agricultural Caribe Industries Ltd	Km 2/3 RR 686	Manati	18.42619	-66.48495	
Arwils Manufacturing Corporation	San Isidro Industrial Par	Canovanas	18.37108	-65.89873	
Lederle Pharmaceuticals	65th Inf Ave Km 9 7	Carolina	18.393	-65.9657	
Advanced Podiatry	201 Calle Gautier Benitez	Caguas	18.225035	-66.037988	
Fuller Store	3 Ave Degetau Bonneville	Caguas	18.339219	-66.060238	
Abbott Pharmaceutical Corporation	22 Carr 144 Km 2/6	Jayuya	18.2171	-66.6085	
App Pharmaceuticals, Inc.	Km 64 4 RR 140	Barceloneta	18.44936	-66.54586	
Reich Color Corporation	Carr 1 Km 40 8 Bo Brnquen St CA	Caguas	18.27194	-66.04296	
Buzones Y Mas	599 Carr Guayanilla	Ponce	18.00504	-66.60273	
Abbott Chemicals Inc	Carr 2 Km 58 HM 0 St CA	Barceloneta	18.4528	-66.53074	
Patheon Puerto Rico Inc	34 Rd 1 1 Calle Zafiro	Caguas	18.27194	-66.04296	
BASF Corporation	500 Carr 869 Ste 1301	Catano	18.4382	-66.1273	
Al Natural Aromatico	A-21 I Pque Montebello	Trujillo Alto	18.35072	-66.00742	
Aguakem Caribe Inc	Almacen 6 Puerto Del S	Ponce	18.02276	-66.61978	
Johnson & Johnson	Km 0 HM 1 RR 933	Gurabo	18.269247	-65.948662	
Akzo Nobel Paints LLC	Hwy 65th Inf Km 13 5	Carolina	18.393	-65.9657	
The Clorox Company of P R Inc	1 St Lot 11	Guaynabo	18.36829	-66.10103	
Siemens Healthcare Diagnostics Inc	Carr 876 Km 3 1 St CA	Trujillo Alto	18.35072	-66.00742	
Jabonera Nacional Incorporada	A3 Calle E # 5	San Juan	18.3738	-66.0563	
Watson Laboratories Caribe Inc	Carr 3 Km 76 HM 9 St CA	Humacao	18.15001	-65.81229	
PPG Industries, Inc.	Ave Jesus T Pinero	San Juan	18.395985	-66.047886	
PPG Industries, Inc.	2523 Ponce By Pass # 107	Ponce	18.0121	-66.6011	
Nettuno Corp	<Null>	Canovanas	18.37108	-65.89873	
F S S Chemical Pro Corp	Blvd Bruno Cruz TOA	TOA Baja	18.4436	-66.1762	
Archimica (puerto Rico) Inc	Km 76 HM 9 Humacao RR 3	Humacao	18.1486	-65.8277	
Astrazeneca Pharmaceuticals LP	Road 188 West Km 0 2 St Ro	Canovanas	18.37108	-65.89873	
Morales Caldero , Luis Ivan	Carr 802 Km 5 Hm1 St CA	Naranjito	18.30297	-66.24513	
Lilly Del Caribe, Inc.	Ave 65 Infanteria	Carolina	18.38288	-65.98058	

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Chemical Industries (332)					
Business Name	Address	City	Latitude	Longitude	
App Pharmaceuticals Manufacturing LLC	<Null>	Barceloneta	18.44936	-66.54586	
Puerto Rico Chemical & Industrial Supplies	1285 Calle 15	San Juan	18.390712	-66.011952	
General Coating Products Corp	315 Calle D Ste 2	Bayamon	18.38968	-66.16697	
Natural Cosmetics Laboratories Corporation	Km 55 HM 8 RR 123	Utuado	18.26848	-66.69789	
BASF Agricultural De Puerto Rico Inc	Road 2km St Ro	Manati	18.42619	-66.48495	
Catalent Pharma Solutions, Inc.	Cantano Indus Pk Rd 3	Humacao	18.1486	-65.8277	
Wyeth-Ayerst Lederle Inc	Ave 65th Inf Km 9 HM 7	Carolina	18.38288	-65.98058	
Hepa Filter Certification Inc	998 Ave Munoz Rivera	Rio Piedras	18.402284	-66.056413	
Alcon (puerto Rico) Inc	7 Calle Tabonuco	Guaynabo	18.4049	-66.10608	
Grafor Inc	Urb La Rambla 1360 Cll	Ponce	18.0121	-66.601	
Biovail Laboratories	Carr 698 Km 0 8 Bo Mmeyer St CA	Dorado	18.45988	-66.278	
Ramco Chemical Inc	Minillas CT	Bayamon	18.36754	-66.15936	
The Clorox Company of P R Inc	Parkeast	Bayamon	18.4157	-66.1684	
Renew Biofuels, LLC	41 Calle Dr Rufo	Caguas	18.23237	-66.032319	
GA Performance Chemical	RES Barrio Palmas	Catano	18.43788	-66.13005	
Pharmacia & Upjohn, Inc	Ave Higuillar 14	Dorado	18.455855	-66.280395	
Ipabe, Inc	425 Rd 693 Pmb 157	Dorado	18.45988	-66.278	
Agropharma Laboratories Inc	Carr 701 Km 0 4 Bo Playa St CA	Salinas	17.98262	-66.29482	
Jose Luis Villafane	N 228 Rd 2	San Juan	18.40586	-66.06383	
Ex-Lax Inc	Mariana Ward Rd 909 Km 12	Humacao	18.15001	-65.81229	
Chemprod Corp	Urb Industrl Correa 121	Bayamon	18.4095	-66.1652	
Mapei Caribe Inc	Carr 2 Km 26 2 Bo Espnosa St CA	Dorado	18.45988	-66.278	
Javler Ortiz	Km 0 RR 184	Patillas	18.00575	-66.01079	
Professional Recycling & Manufacturing Corporation	Bo Palmer Carr 955 Km 5 4 St Bo Palmer CA	Rio Grande	18.37644	-65.83807	
Lilly Del Caribe, Inc.	Ave 65 Infanteria	Carolina	18.38288	-65.98058	
Shelfoam Products Inc	Int Carr 171 Cidra Ind PA St Int CA	Cidra	18.17664	-66.16248	
Forto Chemical Corporation	Parque De Los Ninos St	Guaynabo	18.36829	-66.10103	
Chesebough-Pond's Manufacturing Company Inc	Km 21 HM 2 RR 183	Las Piedras	18.1823	-65.86339	
Tropical City Industries Inc	1152 Ave Hostos	Ponce	18.00504	-66.60273	
Bristol-Myers Squibb Holdings Pharmaceuticals Ltd	Km 2/3 Sectr RR 686	Manati	18.42619	-66.48495	
Asdp Products Inc	13 RES Puerta De Tierra # 1089	San Juan	18.4628	-66.0973	
Johnson & Johnson Professional Co (pr) Inc	Carr 183 Km 8 3 St CA	San Lorenzo	18.19083	-65.96526	
Smithkline Beecham (cork) Ltd	Km 91 Bo Crtnjas RR 172	Cidra	18.17664	-66.16248	
Bristol-Myers Squibb Puerto Rico, Inc	6 Calle Tabonuco	Guaynabo	18.40658	-66.10681	
Daichi Sankyo De Puerto Rico, Inc.	258 Puerta De Tierra	San Juan	18.4628	-66.0973	
PPG Industries, Inc.	Carolina Shopp Ctr	Carolina	18.388	-65.9573	
Glaxosmithkline LLC	Km 9 1 Bo Crtnjas RR 172	Cidra	18.17664	-66.16248	
Lilly Del Caribe, Inc.	State Road 53 Km 82 St State Ro	Guayama	17.9534	-66.167	

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Chemical Industries (332)				
Business Name	Address	City	Latitude	Longitude
Mylan Inc	Caguas West I RR 156	Caguas	18.444515	-66.11186
Schering Plough Products Inc	Pridco Indus Park RR 183	Las Piedras	18.1823	-65.86339
Olay Company, Inc	Km 2 HM 3 RR 735	Cayey	18.1055	-66.1662
Insular Trading Company Inc	Bo Bajura Carr 647 05	Vega Alta	18.33171	-66.359451
Cecilia Rijos	Rj26 Calle Jazmin 2	TOA Baja	18.4448	-66.1799
Nature Nation	Plaza Del Sol	Bayamon	18.40769	-66.16548
Camuy Auto Color Inc	1015 Ave Country Club	Camuy	18.47114	-66.85086
Biosafe Products Corp	Calle B 7panque	San Juan	18.41257	-66.08235
Abbott Laboratories Pacific Ltd.	Km 58 0 Cruce Dav RR 2	Barceloneta	18.44936	-66.54586
Ecolab Manufacturing Inc.	Road 28 Luchetti Indus PA	Bayamon	18.39792	-66.15615
Wyeth-Whitehall Pharmaceuticals, Inc	Road No 3 Km 142 1	Guayama	17.9829	-66.1174
Abbott Fermentation Products De Puerto Rico, Inc.	Hwy 2 Km 58 2 Cruce Dvlla	Barceloneta	18.44936	-66.54586
Industrialized Building Systems	71 Anasco St Rio Piedras	San Juan	18.4444	-66.0765
Sun Chemical Corporation	Calle Sur Prque Indlel CM	Carolina	18.39306	-65.97369
Alfonso Balaustres	Carr 1	Cayey	18.105518	-66.166126
Colon Gas	147 Calle 41	Rio Piedras	18.398956	-66.016397
Paints Suppliers of Puerto Rico	11 Calle Marginal	Guaynabo	18.4321	-66.1153
Aventis Pharmaceuticals PR Inc	604 Calle San Jose Ind Zo	Manati	18.42619	-66.48495
Enviro-Safe Industrial Services Corporation	St Rd 686 Km 0 5	Manati	18.4263	-66.4904
Vmt Product Sales	1 Juan1 Martines St	Guaynabo	18.388172	-66.111713
Ashford Pharmalogic Corp	29 Calle Washington # 105	San Juan	18.4556	-66.066
Linde Gas Puerto Rico Inc	Las Palmas Village Rd 869	Catano	18.444515	-66.11186
Pfizer Inc.	864 Ave San Patricio	San Juan	18.394573	-66.092101
Amgen Manufacturing Limited	Road 31 Km 24 6 St Ro	Juncos	18.2228	-65.9173
9 12 Corp	Box 29030 Dept 01 Pmb 388	Caguas	18.22902	-66.04438
Schering Plough Products Inc	Carretera Estatal 686	Manati	18.4267	-66.4876
Harris Paints Corporation	Parkeast 25	Bayamon	18.4157	-66.1684
Ares-Serono	Hwy 686 Col 2/3 # 23	Manati	18.4263	-66.4904
Caribbean Coating Pintura Contratistas	541 Calle Riaza	San Juan	18.411971	-66.031117
Wyeth-Ayerst Lederle Inc	Ave 65th Inf Km 9 HM 7	Carolina	18.38288	-65.98058
Charlotte De Puerto Rico, Inc.	205 Sabanetas Ind Pk	Ponce	18.037726	-66.68848
Ben's Manufacturing Corp	Los Flamboyanes Calle Moc	Gurabo	18.25785	-65.97257
Bristol-Myers Barceloneta, Inc.	Road 2 Km 56 HM 4 St Ro	Barceloneta	18.44936	-66.54586
Mc Nell Consumer Products PR Inc	Carr 183 Km 19 3 Montones St CA	Las Piedras	18.18304	-65.86418
Pfizer Consumer Healthcare	Street 3 Km 141 3	Guayama	17.97614	-66.11354
The Dial Corporation	Metro Sq Bldg 11 Ste 103	Guaynabo	18.391504	-66.098846
PPG Industries, Inc.	N Coast Shop Ctr	Vega Alta	18.42053	-66.33339
Derma Swisse 3000	404 Cille Tnte Csar Gnzlez	San Juan	18.444515	-66.11186
Amgen Puerto Rico, Inc.	<Null>	Juncos	18.22587	-65.9177

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Chemical Industries (332)					
Business Name	Address	City	Latitude	Longitude	
Avon Products, Inc.	State Rd 1 Km 26 4	Caguas	18.2323	-66.0338	
P I Ta Industries Inc	Km 143 0 RR 3	Guayama	18.02784	-66.79066	
Inyx USA Ltd	Carr 604 San Jose Rd	Manatí	18.4257	-66.4729	
Econo-Carib Janitorial Supply & Service Inc	250 Minillas CT 37	Bayamon	18.36754	-66.15936	
Praxair Puerto Rico B.V.	Int Rd 931 RR 189	Gurabo	18.25785	-65.97257	
Leon De La Rosa Corp	6 Calle 3 Rey	Guaynabo	18.346782	-66.044097	
Edgardo Nitro	13 Calle Urano	Trujillo Alto	18.373714	-66.007406	
Sanofi-Aventis U.S. Inc	Edificio Dla Crz 100	Guaynabo	18.437419	-66.122005	
Alcon (puerto Rico) Inc.	Barrio Junquito Carr	Humacao	18.15001	-65.81229	
Universal Manufacturing Corp	Carr 647 Km 0 5 Bo Bjrass St CA	Vega Alta	18.42053	-66.33339	
South Pearl Chemical Inc	Km 17 Hm 1 RR 127	Penuelas	18.05764	-66.71777	
International Cyclotrons Inc	56 Jose Marti	San Juan	18.421638	-66.054923	
I C I Paints (puerto Rico) Inc	65th Inf Rd Km 13 HM 4	Carolina	18.393	-65.9657	
Galderma Laboratories, LP	8 Calle 1 Ste 312	Guaynabo	18.4076	-66.1014	
Baxter Healthcare Corporation	Km 142 5 Ste 3 RR 3	Guayama	17.97614	-66.11354	
Biohealth Technologies, Inc.	E St Lots 4&5 Angora Ctr	Caguas	18.27194	-66.04296	
Merck Sharp & Dohme Corp.	Urb Industrial Villa Blanca	Caguas	18.27194	-66.04296	
Compli Caribe LLP	37 Calle Ambar	Las Piedras	18.1902	-65.8675	
Praxair Puerto Rico B.V.	Technico Ind Park 77 RR	Humacao	18.15001	-65.81229	
Axium Healthcare Pharmacy, Inc.	108 State Rd	Guaynabo	18.3642	-66.0194	
Wyeth Pharmaceuticals Company, Inc.	Road 3 Km 142 1 St Ro	Guayama	17.97614	-66.11354	
Nutraceutical Labs. of P.R. Inc	Calle Santa Aqueeda 1708	San Juan	18.388651	-66.049465	
GE Betz, Inc.	Carr 854 Km 3/5 St CA	TOA Baja	18.4448	-66.1799	
Patheon Puerto Rico, Inc.	Km 34 HM 1 A St Villa RR 1	Caguas	18.34912	-65.98864	
Syntex, Puerto Rico Inc	Hc 1 Box 16625	Humacao	18.1486	-65.8277	
Advanced Diesel Technology Inc	Carr 831 Km 1/5 SEC St CA	Guaynabo	18.437716	-66.120191	
Warner Chilcott Company, LLC	RR 2	Manatí	18.42619	-66.48495	
I P R Pharmaceutical, Inc	San Isidro Indtl Park Lot	Canovanas	18.37108	-65.89873	
R - J & Associates	208 Calle Zambese	San Juan	18.370745	-66.062314	
Janssen Ortho LLC	State Rd 933 Km 0 1	Gurabo	18.247885	-65.94835	
Merle Watson	198 Ave Esmeralda	Guaynabo	18.371891	-66.102786	
Chemical Solutions Inc	Centro Ind Minilla	Bayamon	18.3693	-66.1598	
The Soap Factory Corp	Industrio Bldg M.204	Catano	18.4422	-66.13988	
Bristol Meyer Squibb Holding Pharma Ltd	Km 2 HM 3 RR 686	Manatí	18.42619	-66.48495	
Y & C Manufacturing and Distributor, Inc.	Carr 183 Km 73 Bo Hato St CA	San Lorenzo	18.19083	-65.96526	
Alba Manufacturing, Corp.	405 Ave Esmeralda Pmb 309	Guaynabo	18.36991	-66.10235	
Ivax Pharmacuetical Caribe Inc	Cidra Ind Park C St 17 18	Cidra	18.17664	-66.16248	
Knoll LLC	Road 144 Km 2 6	Jayuya	18.22064	-66.60497	
Rosemarie Musarra Incorporated	14 Callejon La 44 # 14	Carolina	18.404049	-65.98784	

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Chemical Industries (332)					
Business Name	Address	City	Latitude	Longitude	
Master Paints & Chemical Corp	Km 12 7 Car RR 127	Guayanilla	18.02784	-66.79066	
The Sherwin-Williams Company	Km 137 RR 3	Carolina	18.38821	-65.96424	
Hexion Specialty Chemicals, Inc.	Km 1 Cnr Rd 865 RR 866	TOA Baja	18.43771	-66.2528	
F E J Caribe Paint Corp	Barrio Rio Cana Km 27 4	Caguas	18.22902	-66.04438	
Technofiber Inc	Km 56 1 RR 2	Barceloneta	18.44936	-66.54586	
Pharma Medic Distributors Corp.	<Null>	Coamo	18.048489	-66.363127	
Dwax Distributors Inc	710 Cordova St Pmb 400 400 Pmb	San Juan	18.405902	-66.084403	
Pro-Coating Treatments, Inc	1498 Camino Gonzalez 3	San Juan	18.334929	-65.981614	
Norega Laboratories, Inc	1086 Ave Munoz Rivera	San Juan	18.400325	-66.056296	
Parke Davis Pharmaceuticals Limited	1 Carr 689	Vega Baja	18.44703	-66.38212	
Pfizer Inc.	1 Carr 689	Vega Baja	18.447	-66.3821	
Pfizer Pharmaceutical LLC	Highway North 2 Km 60	Arecibo	18.4831	-66.615005	
Real Quality Toner	Carr 857 Km 0 2 Bo St CA	Carolina	18.37392	-65.94765	
Ubd- Universal Business Development, Inc.	75 Carr 2 F	Manati	18.432	-66.4852	
	State Rd 2 Km 56 4	Barceloneta	18.44936	-66.54586	
Bristol-Myers Squibb Company					
Pfizer Inc.	12 Calle Padre Sercus	Aguas Buenas	18.2568	-66.1025	
Linde Gas Puerto Rico Inc	Barrio Magas State Rd 127 St Barrio Magas STA	Guayanilla	18.017085	-66.79003	
Lanco Manufacturing Corp	5 Urb Aponte	San Lorenzo	18.19089	-65.96274	
The Emulsion Manufacturing Company Inc	Carr 165 Km2.2	Guaynabo	18.4204	-66.1101	
Cre Fuel Service Corporation	<Null>	TOA Baja	18.4448	-66.1799	
King Pharmaceuticals	544 Calle Aldebaran 638	San Juan	18.3985	-66.1064	
Ace Management Group Corp	Cc12 St 23via Guadalupe # 12	Caguas	18.2323	-66.0338	
Johnson Diversey (puerto Rico) Inc	16 Calle B	Carolina	18.430498	-66.004511	
Torres Naveira, Manuel Bismark	Calle 1 19altras Le St Cal	Guaynabo	18.384061	-66.116545	
Atan Inc	Urb Perla Del S	Ponce	18.02276	-66.61978	

Graph 4C: Fertilizers, Explosives, and Biological Products



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PUERTO RICO CATASTROPHIC PLANNING ANNEX
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Table 4C.1: Puerto Rico Explosives Manufacturing Data

<i>Explosives Manufacturing (1)</i>				
<i>Business Name</i>	<i>Address</i>	<i>City</i>	<i>Latitude</i>	<i>Longitude</i>
Alba Manufacturing, Corp.	405 Ave Esmeralda Pmb 309	Guaynabo	18.36991	-66.10235

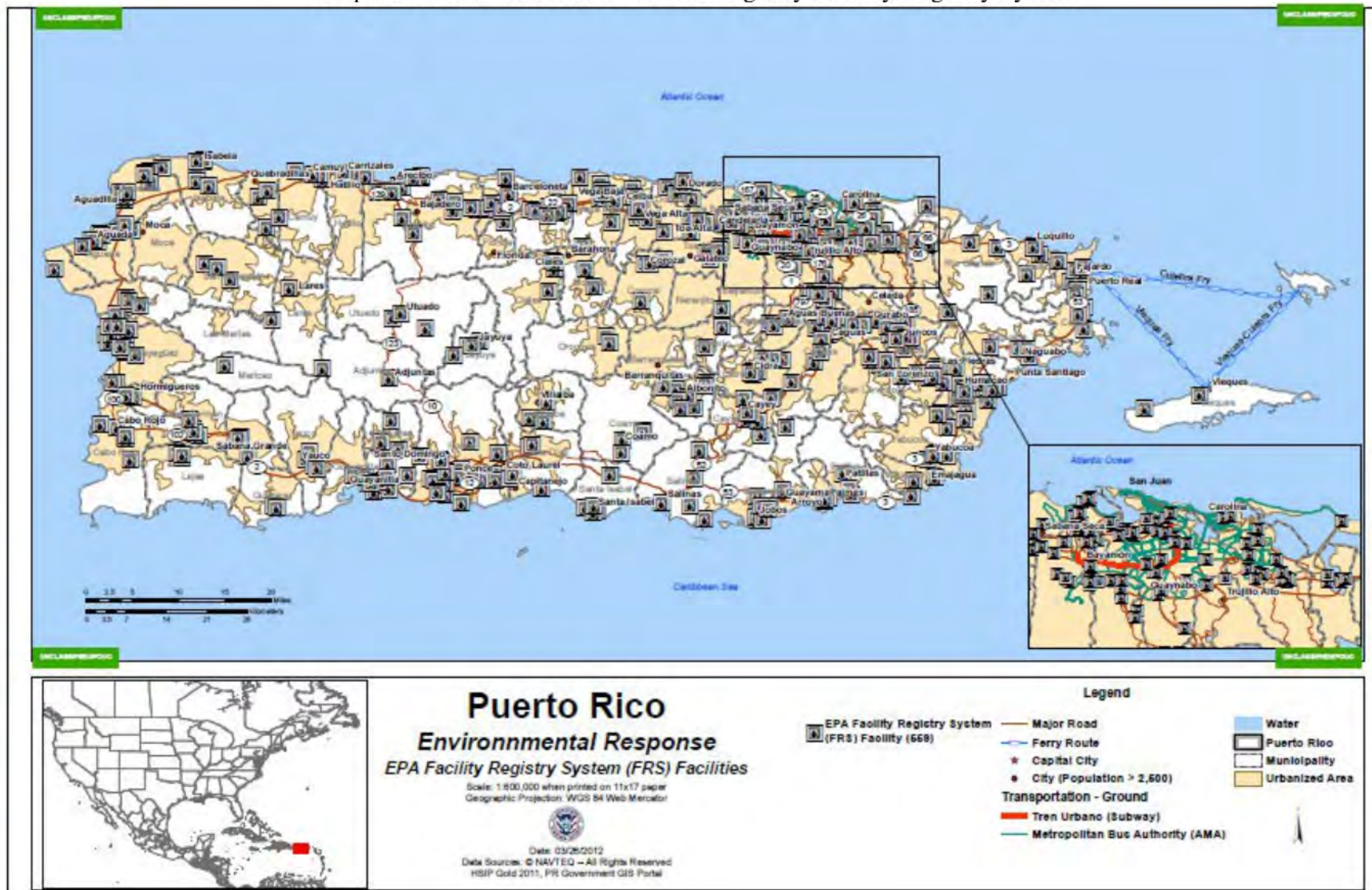
Table 4C.2: Puerto Rico Nitrogenous Fertilizer Plants Data

<i>Nitrogenous Fertilizer Plants (3)</i>				
<i>Business Name</i>	<i>Address</i>	<i>City</i>	<i>Latitude</i>	<i>Longitude</i>
Agro Creations Inc	1015 Ave Hostos	Ponce	18.02068	66.61777
Super A Fertilizer Works Inc	Carr 2 Km 146 7 Bo Sbneta St CA	Mayaguez	18.19545	67.15037
Aguakem Caribe Inc	Almacen 6 Puerto Del S	Ponce	18.02276	66.61978

Table 4C.3: Puerto Rico Phospatic Fertilizer Plants Data

<i>Phosphatic Fertilizer Plants (2)</i>				
<i>Business Name</i>	<i>Address</i>	<i>City</i>	<i>Latitude</i>	<i>Longitude</i>
Occidental Chemical Corp.	654 Ave Munoz Rivera	San Juan	18.410443	-66.056688
Pan American Grain Company Inc	Km 1/9 RR 333	Guanica	17.96926	-66.93219

Graph 4D: Environmental Protection Agency Facility Registry System



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PUERTO RICO CATASTROPHIC PLANNING ANNEX
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Table 4D: Environmental Protection Agency Facility Registry System Data

EPA Facility Registry System (FRS) Facility (559)

FAC_NAME	LOC_ADD	LOC_CITY	LATITUDE	LONGITUDE
COATINGS INCORPORATED & COMPANY	404 E STREET MINILLAS INDUSTRIAL PARK	BAYAMON	18.37158	-66.14186
HB FULLER COMPANY HBF PUERTO RICO	CALLE C NUMBER 26 LUCHETTI INDUSTRIAL PARK	BAYAMON	18.416667	-66.166667
ADM ALLIANCE NUTRITION OF PR LLC	ROAD 2 KM 83 CARRIZALES WARD	HATILLO	18.485142	-66.777319
CERVEERIA INDIA INC	100 BOULEVARD ALFONSO VALDEZ	MAYAGUEZ	18.206944	-67.141667
STAR KIST CARIBE INCORPORATED	3051 ROAD 64	MAYAGUEZ	18.233404	-67.172512
DESTILERIA SERRALLES INC	AHONORAY STREET #331 MERCEDITA	PONCE	18.016111	-66.564166
HANES MENSWEAR INCORPORATED PONCE TEXTILES	84 HOSTOS AVENUE	PONCE	18.016389	-66.597778
HENKEL PUERTO RICO INC	9 V. QUILINCHINI AVENUE	SABANA GRANDE	18.075	-66.961667
PUERTO RICO ELECTRIC POWER AUTHORITY AGUIRRE POWER GENERATION COMPLEX	PR-03 KM 152.7 BO. MONTESORRIA, AGUIRRE	SALINAS	17.946363	-66.233516
AVON LOMALINDA INCORPORATED	ROAD 446 LOT 5-15 GUATEMALA INDUSTRIAL PARK	SAN SEBASTIAN	18.341667	-67
BORICUA WOOD PROCESSING INC	CARR. 865 KM. 5.5	TOA BAJA	18.415648	-66.202659
GE POWER PROTECTION OF PUERTO RICO INCORPORATED	RD 200 CORNER, 201 MARTINO WARDTINO	VIEQUES	18.139908	-65.457898
SARTORIUS STEDIM FILTERS INC	ROAD 128 & ROAD 376	YAUCO	18.039033	-66.858801
INSULAR WIRE PRODUCTS CORP	LOT #20 ST B	BAYAMON	18.415122	-66.168036
CABO ROJO WOOD TREATING PLANT CORP	RD. 312-313 KM.1.1 BO.BALLA JA	CABO ROJO	18.075308	-67.143231
PALL LIFE SCIENCES PUERTO RICO LLC	RD 194 KM 0.4	FAJARDO	18.303545	-65.648755
LA PLATA-AIBONITO FILTRATION PLANT	ROAD PR # 173, KM 1.21 INTERIOR	AIBONITO	18.15973	-66.231142
CAGUAS NORTE FILTRATION PLANT	RAFAEL CORDERO AVE. AND PEREGO ST.	CAGUAS	18.245056	-66.020472
PRASA OROCOVIS STP	CARR. 155, KM 28.7	OROCOVIS	18.233889	-66.388333
OROCOVIS FILTRATION PLANT	CARRETERA 156 KM. 1.5 INTERIOR	OROCOVIS	18.221361	-66.382389
DORADO WASTEWATER TREATMENT PLANT	CARR 693 KM 5.6	DORADO	18.456407	-66.259362
PATILLAS FILTRATION PLANT	CARRETERA 181 KM 32.8	PATILLAS	18.017472	-66.017333
PRASA SAN LORENZO STP	CARR 183 KM 9.7	SAN LORENZO	18.193056	-65.965
PRASA WTP GUAYNABO	CARR. 833, KM 14.8	GUAYNABO	18.377778	-66.12

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EPA Facility Registry System (FRS) Facility (559)

FAC_NAME	LOC_ADD	LOC_CITY	LATITUDE	LONGITUDE
VEGA BAJA WASTEWATER TREATMENT PLANT	CARR. 686, KM 14.7	VEGA BAJA	18.469417	-66.396919
VEGA ALTA WASTEWATER TREATMENT PLANT	CARR. 2, RAMAL 676, KM. 1.9	VEGA ALTA	18.417583	-66.338528
SABANA GRANDE WASTEWATER TREATMENT PLANT	CARR. 2, KM 182.6 INT.	SABANA GRANDE	18.072417	-66.96425
RÍO GRANDE EL YUNQUE FILTRATION PLANT	CARR 3 KM 25.4	RIO GRANDE	18.377502	-65.81732
ARECIBO WASTEWATER TREATMENT PLANT	CARR. 681, KM 3.0	ARECIBO	18.480556	-66.677694
CAROLINA REGIONAL WASTEWATER TREATMENT PLANT	PR ROAD 187 KM. 16.5 BO. TORRECILLA	LOIZA	18.436389	-65.88556
HATILLO FILTRATION PLANT	PR-4491 KM. 0.1 INTERIOR	HATILLO	18.477382	-66.832923
FAJARDO WASTEWATER TREATMENT PLANT	CARR. 195, ESQ. #3	FAJARDO	18.335574	-65.653146
VEGA BAJA ALMIRANTE SUR FILTRATION PLANT	CARR. 160, KM. 10/9	VEGA BAJA	18.445456	-66.374166
AGUADILLA NUEVA FILTRATION PLANT	CARR. 459, KM 0.3	AGUADILLA	18.496082	-67.083587
AGUAS BUENAS FILTRATION PLANT	CARR. 173, KM 0.3	AGUAS BUENAS	18.259167	-66.103889
JAYUYA FILTRATION PLANT	CARR. 144, KM 21.4	JAYUYA	18.223056	-66.585556
OJO DE AGUA POTABLE WATER PUMP STATION	ROAD PR 123 KM. 70.3	ARECIBO	18.393028	-66.689667
MATADERO TANK AND CHLORINATION STATION	CARRERA 636 KM. 0.1 BO. TANAM	ARECIBO	18.416667	-66.707778
SABANA GRANDE - BO. MAGINAS FILTRATION PLANT	CARR. 121, KM. 4.3	SABANA GRANDE	18.042842	-66.949465
CEIBA WASTEWATER TREATMENT PLANT	CARR 979, KM. 53.2	CEIBA	18.278052	-65.638437
CAYEY-CIDRA WASTEWATER TREATMENT PLANT	PR-171 KM. 5.7 INTERIOR	CIDRA	18.135213	-66.172454
GUAJATACA (QUEBRADILLAS) FILTRATION PLANT	CARR. 119, KM 19.2	QUEBRADILLAS	18.401998	-66.920424
CIALES WASTEWATER TREATMENT PLANT	CARR. 149, KM 12.1	CIALES	18.346389	-66.468889
AGUADA-AGUADILLA WASTEWATER TREATMENT PLANT	STATE ROAD 115 KM. 25 INTERIOR	AGUADA	18.39255	-67.18174
SAN LORENZO FILTRATION PLANT	CARR. 916, KM 2.0	SAN LORENZO	18.186053	-65.959384
RONCADOR (UTUADO) FILTRATION PLANT	CARR. 603, KM 5.0	UTUADO	18.259918	-66.723197
COTO LAUREL-PONCE FILTRATION PLANT	STATE ROAD 14 KM. 8.3	PONCE	18.048471	-66.557816
MERCEDITA WASTEWATER PUMP STATION	PR # 1, KM 121.3	PONCE	18.006041	-66.561363
SAN ANTONIO (CAGUAS) FILTRATION PLANT	CARR. 175, INT. 739	CAGUAS	18.301389	-66.031389

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FAC_NAME	LOC_ADD	LOC_CITY	LATITUDE	LONGITUDE
PRASA LARES	CARR. 452 KM 0.7	LARES	18.305838	-66.88448
CEIBA SUR-JUNCOS FILTRATION PLANT	PR 9934 KM. 1.5	JUNCOS	18.212785	-65.92144
BORINQUEN DAIRY DIVISION OF SUIZA DAIRY INCORPORATED	PR 467 BO. CAMASEYES KM. 0.9	AGUADILLA	18.458116	-67.150374
EDWARDS LIFESCIENCES TECHNOLOGY SARL	ROAD 402 KM. 1.4	ANASCO	18.28333	-67.13944
THERMO KING DE PUERTO RICO	ZENO GANDIA INDUSTRIAL AREA B STREET	ARECIBO	18.45815	-66.746457
PHARMACIA & UPJOHN CARIBE INCORPORATED	HIGHWAY 2 KM 60.0	ARECIBO	18.4292	-66.5901
ISLAND CAN CARRIBEAN INC	ROAD 28 CORNER 5	BAYAMON	18.416111	-66.144444
UNION CARBIDE LLC	RD. 127 - KM 17.3	PENUELAS	17.991463	-66.740636
CARIBBEAN REFRESCOS INC	RD. 172 KM. 13.4 BARRIO MONTELLANO	CIDRA	18.175911	-66.149956
INDUSTRIAS AVICOLAS DE PR	RD. 14 KM. 37.3	COAMO	18.082942	-66.329361
BAXTER CARIBE INCORPORATED	ROAD 3 KM 142.5	GUAYAMA	17.960025	-66.150112
ARMSTRONG HOLDING CORP	BARRIO MANGAS	GUAYANILLA	17.991111	-66.7525
FORTO CHEMICAL CORP	ARBOLOTE ST., BUILDING #6	GUAYNABO	18.36	-66.11
JOHNSON & JOHNSON MEDICAL INCORPORATED	RD. 933 KM. 0.1 MAMEY WARD	GURABO	18.234116	-65.943863
TAPI PUERTO RICO HUMACAO SITE	ST. C HUMACAO INDUSTRIAL PARK HIGHWAY 3	HUMACAO	18.152222	-65.789444
ICN DUTCH HOLDINGS BV	RD 909 KM 1.1	HUMACAO	18.111674	-65.86363
BAXTER HEALTHCARE OF PUERTO RICO	STATE RD. 144 KM. 20.6	JAYUYA	18.21695	-66.599138
MCNEIL HEALTHCARE LLC	RD. 183 KM 19.7	LAS PIEDRAS	18.174527	-65.886356
AMI DODUCO (PR) LLC	RD 992 KM 0.3 LOT #2	LUQUILLO	18.358333	-65.708333
PUERTO RICO ELECTRIC POWER AUTH	MALECON AVE.	MAYAGUEZ	18.247972	-67.152727
PREPA-VEGA BAJA GAS TURBINES P OWER PLANT	PR-2 KM 38.0	VEGA BAJA	18.446881	-66.397978
GE INDUSTRIAL OF PR LLC	STATE RD. #3 KM. 122.9	PATILLAS	17.984884	-66.003632
GENERAL ELECTRIC RESIDENTIAL PRODUCTS INCORPORATED	RD. #191 KM. 0.5 EL YUNQUE	PALMER	18.297103	-65.788452
DANA ENGINE CONTROLS	101 EL TUQUE INDUSTRIAL PARK B STREET	PONCE	17.991667	-66.648611
CHECKPOINT SYSTEMS OF PUERTO RICO INCORPORATED	SABANETAS INDUSTRIAL PARK	PONCE	18.01395	-66.58124

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FAC_NAME	LOC_ADD	LOC_CITY	LATITUDE	LONGITUDE
GLAMOURETTE FASHION MILLS INCORPORATED	STATE RD. 113 KM. 10.9	QUEBRADILLAS	18.417258	-66.899968
VIASYSTEMS PR INC	RD. 362, KM. 0.1 BARRIO GUAMA	SAN GERMAN	18.088766	-67.038739
WALLACE SILVERSMITHS & PR LTD	EL RETIRO INDUSTRIAL CALLE B	SAN GERMAN	18.07828	-67.03255
HAMILTON SUNDSTRAND DE PUERTO RICO INC.	CARR 538 KM 0.7 CALLE B LTE 9	SANTA ISABEL	17.960035	-66.405047
MANUEL DEL VALLE INC.	STATE RD. #2 KM. 20.5 CANDELARIA WARD	TOA BAJA	18.412222	-66.239167
CUTLER HAMMER DE PUERTO RICO COMPANY	ROAD 854 KM 3.5 MEDIA LUNA INDUSTRIAL PARK	TOA BAJA	18.446423	-66.253241
SHELL CHEMICAL YABUCOA INC	ROAD 901 KILOMETER 2.7	YABUCOA	18.011111	-65.8725
LASER PRODUCT INC.	ROAD 185 KM. 19.0	JUNCOS	18.27013	-65.851929
PREPA-JOBOS GAS TURBINES POWER PLANT	PR-03 KM 142.2 BARRIO JOBOS	GUAYAMA	17.965458	-66.132009
TROPICAIR MANUFACTURING CORPORATION	FEDERICO COSTA FINAL	HATO REY	18.436111	-66.075
SHELL COMPANY PUERTO RICO LIMITED	RD. 28 PUEBLO VIEJO WARD	PUERTO NUEVO	18.424444	-66.109167
WATER TREATMENT SPECIALISTS	P.R. ROAD 896 K.M 2.0	CATANO	18.433861	-66.149611
ESSROC SAN JUAN INCORPORATED	KM 26.7 STATE HIGHWAY 2	DORADO	18.395547	-66.297313
FORTEX INDUSTRIES INC	P.R. RD. 174 KM 2.1, MINILLAS IND. PARK	BAYAMON	18.376845	-66.143754
J S CHEMICAL CORPORATION	ROAD 169 KM 4.5	GUAYNABO	18.366933	-66.10989
CAGUAS SUR FILTRATION PLANT (TURABO)	CARR # 1, KM 42 AND CARR # 786	CAGUAS	18.191667	-66.061944
JUNCOS REMOCION PUMP STATION	CARR. 185	JUNCOS	18.25196	-65.917179
AIBONITO REGIONAL WASTEWATER TREATMENT PLANT	MACEDONIA STREET #69	AIBONITO	18.148178	-66.278426
HUMACAO REGIONAL WASTEWATER TREATMENT PLANT	CARR 3 KM 77.2	HUMACAO	18.131088	-65.789223
SAN SEBASTIAN NUEVA WASTEWATER TREATMENT PLANT	CARR 125 KM 18.4	SAN SEBASTIAN	18.345361	-67.017586
SANTA ROSA III - PUMP STATION	CARR. 833, KM 12.0	BAYAMON	18.374722	-66.133333
PRASA WTP SERGIO CUEVAS	CARR. 181, KM 30	TRUJILLO ALTO	18.373056	-66.022778
FAJARDO CEIBA FILTRATION PLANT	CARR. 976, KM 6.8	FAJARDO	18.316563	-65.661137
PRASA PONCE MICROBIOLOGY LABORATORY	CARR. 2, KM 259.2	PONCE	17.983611	-66.639167
PR ELEC POWER AUTH SOUTH COAST STATION	PR-127 KM. 15.7	GUAYANILLA	18.003611	-66.754444

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BESST CHEM INC	E STREET BLDG. M928-70-02, MINILLAS INDL. PARK	BAYAMON	18.430972	-66.1185
PUERTO RICO ELECTRIC POWER AUTHORITY PALO SECO POWER PLANT	PR-165 KM. 3.8	LEVITTOWN	18.457778	-66.148889
PUERTO RICO ELECTRIC POWER AUTHORITY CAMBALACHE COMBUSTION TURBINE PLANT	PR-681, KM 0.5	ARECIBO	18.467169	-66.712753
CHEVRON PHILLIPS CHEMICAL PUER TO RICO CORE LLC	ROAD 710 KM. 1.3, LAS MAREAS WARD	GUAYAMA	17.948333	-66.145833
PRODUCTOS CIRCUITOS DE P R INCORPORATED	RD. 149 KM. 66.7	JUANA DIAZ	18.058048	-66.510427
STERI-TECH INC	RD. 701 KM. 0.7	SALINAS	17.971279	-66.300736
LILLY DEL CARIBE INC PR06	STATE RD. 53 KM 84.0, JOBOS EXIT	GUAYAMA	17.981111	-66.153056
ALLIED WASTE OF PONCE, INC.	500 MUNICIPAL RD LA COTORR	PONCE	18.009167	-66.663333
FLORIDA LIME CORPORATION	PR STATE ROAD 10, KM 8.4	PONCE	18.024167	-66.64
ALBERTO CULVER	ROAD 192 KM. 0.5	NAGUABO	18.199667	-65.724972
GUAYANILLA WASTEWATER TREATMENT PLANT	CALLE MUOZ RIVERA FINAL	GUAYANILLA	18.014167	-66.785
GURABO FILTRATION PLANT	URB. JARDINES DE GURABO	GURABO	18.25576	-65.963717
SAN JUAN CHLORINE DISTRIBUTION CENTER	J.F. KENNEDY AVE.	SAN JUAN	18.360927	-66.071803
PRASA, NORTH COAST SUPERAQUEDUCT PROJECT	BO. SABANA HOYOS, SECTOR BALLAJ	ARECIBO	18.428264	-66.628106
LA VIRGENCITA FILTRATION PLANT	CARR. 2 ESQUINA CARR. 165	TOA ALTA	18.405282	-66.25544
GUANICA WASTEWATER TREATMENT PLANT	CALLE YAGUER (FINAL)	GUANICA	17.967527	-66.910141
JUNCOS WASTEWATER TREATMENT PLANT	CALLE TEODOMIRO DELFAUS FINAL	JUNCOS	18.231389	-65.927778
ISABELA WASTEWATER TREATMENT PLANT	VILLA PESPUERA	ISABELA	18.505642	-67.019074
PONCE VIEJA FILTRATION PLANT	ALFONSO COLN FINAL STREET	PONCE	18.023565	-66.614804
U S NAVAL STATION	ROOSEVELT ROADS	CEIBA	18.242103	-65.639031
BAYAMON WASTEWATER TREATMENT PLANT	CARR 869, KM 2.9	BAYAMON	18.445556	-66.152222
GENERAL ELECTRIC CAGUAS OPERATION	RTE 1 KM 33.7	CAGUAS	18.250846	-66.035185
COROZAL WASTEWATER TREATMENT PLANT	PR-818 KM-1.0	COROZAL	18.345819	-66.32782
PEUELAS WASTEWATER TREATMENT PLANT	CARRETERA 132 KM. 13.3 BO. SALTOS	PEUELAS	18.066173	-66.740601
PROTECCION TECNICA ECOLOGICA	CARR 385 KM 3.5 TALL ABOA	PENUELAS	18.015098	-66.699519

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FAC_NAME	LOC_ADD	LOC_CITY	LATITUDE	LONGITUDE
CARIBE GENERAL ELECTRIC PRODUCT JUANA DI	CARR 149 KM 67	JUANA DIAZ	18.05943	-66.50888
PEUELAS 2 (GUAYANS) FILTRATION PLANT	CARRETERA 386, KM. 0.3	PEUELAS	18.0997	-66.725092
CANVANAS FILTRATION PLANT	CARR. 3, KM 17.4	CANOVANAS	18.376667	-65.892222
COMERIO WASTE WATER	CARR 167 KM 0.6	COMERIO	18.257736	-66.2068
CIALES POZAS FILTRATION PLANT	CARR. 615, KM. 1.6	CIALES	18.302193	-66.478303
MAYAGUEZ REGIONAL WASTEWATER TREATMENT PLANT	PR ROAD # 342 KM. 0.5	MAYAGUEZ	18.250121	-67.154416
EASTON INCORPORATED	RD 870 KM 2 HM 6, PALO SECO	CATANO	18.458333	-66.141667
HUBBELL CARIBE LTD	RD 686 KM 17 HM 3	VEGA BAJA	18.456294	-66.393856
GULF TREATING CORP	CALLE JOHN ALBERT (FINAL)	CAPARRA HEIGHTS	18.421666	-66.096944
ISLAND LITHO CORP	ROAD 167 KILOMETER 5.1	BAYAMON	18.274955	-66.206785
CORDIS LLC	RD 362 KM 0 HM 5	SAN GERMAN	18.087318	-67.035285
PEERLESS TUBE COMPANY OF PUERTO RICO INC.	RD 3 KM 76 HM 3	HUMACAO	18.150569	-65.772623
STANRIC, INC.	RD 195 KM 1 HM 5	FAJARDO	18.330512	-65.64462
U.S. SURGICAL CORP. PUERTO RICO INC	SABENETAS INDUSTRIAL PARK	PONCE	18.008333	-66.584722
VERPAS PRODUCTS INC	RD. 887 KM 0.9	CAROLINA	18.384636	-65.972146
IDI CARIBE INC	PR3 KM 151.8 BOX 400 AGUIRRE	SALINAS	18.01	-66.25
BAXTER HEALTHCARE CORPORATION FENWAL DIVISION	111 COLON ST.	AGUADA	18.380231	-67.184083
ZELTEX PUERTO RICO INCORPORATED	INDUSTRIAL PARK BLDG T 0993	AGUADA	18.384167	-67.195833
ULTRALUMBER CORPORATION	6A URB. INDUSTRIAL VAZQUEZ, HC-06 BOX 72501	CAGUAS	18.25	-66
TELLABS CARIBE INCORPORATED	CARR 195 KILOMETER 1.5	FAJARDO	18.335574	-65.653146
SEMICONDUCTORES POWEREX INCORPORATED	CARR NO. 30 KM 6.0 BO. RINCON	GURABO	18.248261	-65.984968
BORINQUEN CONTAINER CORPORATION	CARR. NO.2 KM. 85.2	HATILLO	18.48812	-66.800558
PRIVATE LABEL INDUSTRIES INCORPORATED	FREE TRADE ZONE #39	MAYAGUEZ	18.216667	-67.15
WESTERN DIGITAL CARIBE INCORPORATED	TURPEAUX INDUSTRIAL PARK 1 A	PONCE	18.06634	-66.60139
FIESTA SWEETENERS CORPORATION	RD. #1 KM. 125 H. 2, BO., TENERIAS	PONCE	18.012424	-66.613726

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FAC_NAME	LOC_ADD	LOC_CITY	LATITUDE	LONGITUDE
INLAND CONTAINER CORPORATION	RD. 690 KM. 1-7 NORTH	VEGA ALTA	18.435889	-66.333136
MANTECADOS PAYCO INCORPORATED	CALLE CHARDON #113	SAN JUAN	18.441667	-66.063889
ORBIT INC	1537 AV. PONCE DE LEON, EL CINCO INDUSTRIAL ZONE	SAN JUAN	18.375556	-66.1625
ENLATADORA DEL PATIO INCORPORATED	URB. INDUSTRIAL JULIO N. MATOS, EDIF 14	CAROLINA	18.427862	-65.969983
FOREST LABORATORIES CARIBE INCORPORATED	126 DE DIEGO AVENUE	SAN JUAN	18.38312	-66.077289
PRASA JUANA DIAZ URBANO	CARR. 149 KM 6.0	JUANA DIAZ	18.062194	-66.504028
RCA DEL CARIBE INCORPORATED	PR RD 2 KM 59.5	BARCELONETA	18.43	-66.58056
CASERA FOODS INCORPORATED	CARR 2 KM 58.2	BARCELONETA	18.431391	-66.562499
INTERSPACE INDUSTRIES CORP.	CARR. 183 KM. 1.7S	CAGUAS	18.195833	-65.973056
KAYSER ROTH HOSIERY INCORPORATED	CARR 129 KM 1.9	ARECIBO	18.466667	-66.708333
QUEBRADILLAS FILTRATION PLANT	CARR. 113, KM 15.5	QUEBRADILLAS	18.449225	-66.9328
LAJAS WATER FILTRATION PLANT	CARR. 116 AND 315	LAJAS	18.041983	-67.05315
MUNICIPAL GOVERNMENT CENTER OF MUNICIPAL OPERATIONS	PR HIGHWAY #1, KM 32	CAGUAS	18.262222	-66.034167
LILLY DEL CARIBE INC	3080 HOSTOS AVENUE	MAYAGUEZ	18.267778	-67.156944
MED REL INC	STREET 909 KM. 0.4 MARIANA	HUMACAO	18.108607	-65.866575
GENERAL INSTRUMENT PR INCORPORATED	CALLE TOMAS DAVILA # 9	BARCELONETA	18.452756	-66.540381
JOHNSON & JOHNSON CONSUMER PRODUCTS	ROAD 183 KM 20.6	LAS PIEDRAS	18.174019	-65.879325
OLYMPIC MILLS CORPORATION	RD. 20-KM 3.8, MARTINEZ NADAL AVE.	GUAYNABO	18.37556	-66.10846
PAN AMERICAN FERTILIZER	ROAD 333 KM 1 HM 9	GUANICA	17.962732	-66.904202
JANSSEN ORTHO LLC ORTHO PHARMACEUTICAL DIV	RD.#2 KM. 45.6 CAMPO ALLEGRE, WARD	MANATI	18.439408	-66.449943
OUTDOOR FOOTWEAR CO.	STATE RD. #112, KM. 2.1, MORA WARD	ISABELA	18.482277	-67.029516
SUPERIOR PAINTS MANUFACTURING CO INC	RD 1 KM 19 HM 1	SAN JUAN	18.345444	-66.093077
VILCO CHEMICAL DIV				
TEXACO INDS. INC.	RD. 127 KM.15.5 BO. PENONCITO	GUAYANILLA	18.0025	-66.761944
TONKA FOOTWEAR CO. INC.	STATE RD. NO. 3 K.M. 82.5	HUMACAO	18.148169	-65.825581
COCA COLA PUERTO RICO BOTTLERS	INTERSECTION STATE RD 1 & 735	CAYEY	18.1375	-66.127222

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COLGATE PALMOLIVE P.R. INC.	RD. #3 KM 144.7	GUAYAMA	17.957607	-66.152082
LUNA PAINTS CORP.	97 D ST, MINILLAS INDUS PARK	BAYAMON	18.382353	-66.174955
MCNEIL HEALTHCARE LLC	ROAD 30 KM 21 HM 2	LAS PIEDRAS	18.183056	-65.84
BUMBLE BEE INT'L INC.	341 ROAD KM 4.5 GONZALEZ CLEMEN	MAYAGUEZ	18.223611	-67.168889
SUIZA DAIRY CORPORATION	51 AVE. DE DIEGO	SAN JUAN	18.383151	-66.073769
INDUSTRIAL LECHERA DE PUERTO RICO INC	209 CALLE O'NEILL	SAN JUAN	18.422576	-66.064505
WESTERN FHER LAB	CARR #132 KM 25.3	PONCE	18.044124	-66.679961
TALLER LA CARIDAD	CALLE ESPERANZA 59	PONCE	18.01083	-66.62081
WYETH PHARMACEUTICALS CO	CARR 3 KM 142.1	GUAYAMA	17.960918	-66.145095
MERCK SHARP & DOHME QUIMICA DE PR	CARR. 2 KM 60.3 SABANA HOYOS	ARECIBO	18.481346	-66.764857
COMMERCIAL INCINERATION CORP.	65TH INF. CARR.#3_KM 13.6	CAROLINA	18.375434	-65.937296
TECH AEROFOAM PRODUCTS INTERNATIONAL INC	CARR. #3 KM 12.7	CAROLINA	18.373889	-65.941111
GE INDUSTRIAL OF PR LLC	CARR. 2 KM. 30.2	VEGA ALTA	18.415833	-66.323056
SAFETY KLEEN ENVIROSYSTEMS COMPANY OF PUERTO RICO INCORPORATED	HIGHWAY 2 KM 51	MANATI	18.430874	-66.506619
BRISTOL MYERS SQUIBB MANUFACTURING CO	STATE RD. #3 KM 77.5	HUMACAO	18.148635	-65.794424
JAYUYA WASTEWATER TREATMENT PLANT	CARR. 144, KM. 2.0	JAYUYA	18.215833	-66.604722
FARALLON, CAYEY FILTRATION PLANT	PR-742 END	CAYEY	18.089441	-66.106018
CARIBE GE INTERNATIONAL OF PR INC	STATE RD. 402 KM1.5 INDUSTRIAL PARK LAS MARIAS	ANASCO	18.292442	-67.140194
INTEL PUERTO RICO LTD	ROAD 183, SOUTH INDUSTRIAL PARK	LAS PIEDRAS	18.170833	-65.925
SCHERING PLOUGH PRODUCTS INCORPORATED	CARR 686 KM 0.5 BO COTO NORTRE	MANATI	18.43837	-66.468805
ELAX INCORPORATED	RD. 909 KM. 1.3 MARIANA WARD	HUMACAO	18.136389	-65.838611
PREPA - SAN JUAN STEAM PLANT	MERCADO CENTRAL AVE. ZONA PORTURIA RD. PR-28	PUERTO NUEVO	18.429167	-66.105
MERCK SHARP & DOHME QUIMICA OF PR INCORPORATED	RD. #2 KM 56.7 TRINIDAD	BARCELONETA	18.425944	-66.546939
EATON ELECTRICAL OF PUERTO RICO INC	ROAD NO. 14 KM 32.0	COAMO	18.06955	-66.362308
DU PONT ELECTRONICS MICROELECTRONICS INDUSTRIES LTD	HWY. 686 KM 2.3	MANATI	18.446312	-66.464904

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DAVIS & GECK LIMITED	STATE RD. #2 KM. 47.4	MANATI	18.434297	-66.46999
TO-RICOS LAS PIEDRAS FEED MILL	STATE RD. PR-183 KM. 22	LAS PIEDRAS	18.167778	-65.882778
MINILLAS-AGUAS BUENAS FILTRATION PLANT	CARR. 174, KM 21.7	AGUAS BUENAS	18.251889	-66.132139
PALMER RIO GRANDE FILTRATION PLANT	CARR. 3, KM 31.4	RIO GRANDE	18.370904	-65.775013
PRAXAIR PUERTO RICO, INC. - YABUCOA	ROUTE 901, KM 2.7 BARRIO CAMINO NUEVO	YABUCOA	18.045833	-65.852222
JANSSEN ORTHO L L C	STATE RD. 933 KM 0.1 MAMEY WARD	GURABO	18.245518	-65.94769
G H BASS CARIBBEAN INCORPORATED	STATE RD. #2 KM. 49.3	MANATI	18.428264	-66.497315
REEDCO INCORPORATED	RD. 3, KM 76.4	HUMACAO	18.150443	-65.773558
TEXACO PUERTO RICO INCORPORATED CATANO TERMINAL	ROAD 28 PUEBLO VIEJO WARD	GUAYNABO	18.423218	-66.10706
CHEMTEX CARIBBEAN INCORPORATED	ROAD 176 KM 9.5	SAN JUAN	18.326665	-66.045481
INDUSTRIAS LA FAMOSA CANNING COMPANY	RD 866 CORNER 865 KM 12.1	TOA BAJA	18.415982	-66.201931
SMART MODULAR TECHNOLOGIES OF PUERTO RICO	ROAD 115 KM 22.6	AGUADA	18.380797	-67.191301
AES PUERTO RICO LP	CARRETERA #3 KM 142	GUAYAMA	17.943889	-66.150917
CASTANER GENERAL HOSPITAL	RD 135 KM 64.2	CASTANER	18.182778	-66.833333
VAN CAMP SEAFOOD NATIONAL PACKING CO	AVENIDA SANTIAGO DE LOS, CABALLEROS #1	PONCE	17.972778	-66.615278
BAYAMON CAN CO	ROAD 866 INTERSECTION 865 BO CANDELARIA ARENAS	TOA BAJA	18.416667	-66.198333
DUAL LITE MANUFACTURING INCORPORATED	ROADS 31 AND 192	NAGUABO	18.212687	-65.74205
INFORMATION MAGNETICS CARIBE INCORPORATED	ROAD 125 KM 1.0	MOCA	18.398281	-67.131337
ORAL-B LABS. MANUFACTURING CORP. OF P.R.	STATE ROAD 335 KM 0.4	YAUCO	18.030189	-66.846419
VETERANS AFFAIRS CARIBBEAN HEALTHCARE SYSTEM	1 VETERANS PLZ BO MONACILLOS	RIO PIEDRAS	18.396118	-66.068735
PAMCOR INC	677 DE DEIGO AVE	RIO PIEDRAS	18.397264	-66.024067
CUTLER HAMMER DE PR INC	174 PLANT RD	AGUAS BUENAS	18.25	-66.125
PRASA WTP YABUCOA	CARR 3 KM 100.5 BARRIO LA PICA	YABUCOA	18.039444	-65.884444
BECTON DICKINSON CARIBE LTD	VICKS DR LOT 6 N-18 0720	CAYEY	18.122222	-66.25
PROCARIBE	CARR 385 KM 5.4 BO TALLABOA	PENUELAS	17.999972	-66.732778

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PUERTO RICO CATASTROPHIC PLANNING ANNEX

EPA Facility Registry System (FRS) Facility (559)

FAC_NAME	LOC_ADD	LOC_CITY	LATITUDE	LONGITUDE
ALLERGAN MEDICAL OPTICS	CARR 402 NORTH PMMA LOTS 14 - 16	ANASCO	18.290278	-67.136667
VWR ADVANCED INSTRUMENTS LLC	CARR 869 KM 1.5 EDIF J-1	CATANO	18.423478	-66.147027
TOTAL PETROLEUM PUERTO RICO CORP	STATE ROAD #2, KM. 138.2	AGUADA	18.393776	-67.153391
LANCO MANUFACTURING CORP	5 APONTE STREET	SAN LORENZO	18.193248	-65.94819
PRECISION MICROBLENDERS INC	24 BETANCES ST	CIALES	18.336299	-66.469332
UNIV OF PUERTO RICO	431 PONCE DE LEON AVE	RIO PIEDRAS	18.420229	-66.0563
BETTER ROADS ASPHALT CORPORATION	PR 845 KM 1.6	RIO PIEDRAS	18.377778	-66.043611
DEMACO CORPORATION	ROAD 127 KM 27.5	GUAYANILLA	18.013611	-66.766111
SUPERACUEDUCTO FILTRATION PLT	ROAD 663 KM 1.6	ARECIBO	18.441666	-66.625
PRASA AIBONITO	ANTIOQUIA STREET	AIBONITO	18.150833	-66.279167
PRASA ARECIBO	STATE ROAD 681 KM 2	ARECIBO	18.483889	-66.678056
BARCELONETA CHEMICAL LAB RW WTP	STATE ROAD 684 KM 3.7	BARCELONETA	18.481389	-66.545556
CAYEY REGIONAL WWTP	ROAD 171 KM 5.8	CAYEY	18.136389	-66.1725
CEIBA STP	STATE ROAD 3 KM 53.2	CEIBA	18.272222	-65.643333
COMERIO WWTP	STATE ROAD 167 KM 0.6	COMERIO	18.2477	-66.2066
COROZAL STP	STATE ROAD 818 KM 0.9	COROZAL	18.347778	-66.319444
PRASA ISABELA	STATE ROAD 466	ISABELA	18.510278	-67.019167
PRASA PATILLAS STP	STATE ROAD 3 KM 126.5	PATILLAS	17.995278	-66.0075
PRASA PUERTO NUEVO	JOHN F KENNEDY AVENUE	SAN JUAN	18.431111	-66.085556
PRASA VEGA BAJA STP	ROAD 3 KM 83 HM 6	VEGA BAJA	18.470833	-66.396944
PRASA ENRIQUE ORTEGA WTP	ROAD 827 KM 5.6	TOA ALTA	18.363611	-66.23075
PRASA YAUCO STP	STATE ROAD 335 KM 1.1	YAUCO	18.024972	-66.840973
RIMCO INCORPORATED	STATE ROAD 2 KM 3	SAN JUAN	18.425833	-66.098333
PRASA WTP CULEBRAS FILTER PLT	RD 738 KM 1.5	CAYEY	18.077222	-66.145
DIGITAL EQUIPMENT CORP	KM 5.8 CARR 110N	SAN ANTONIO	18.491034	-67.10354
MAX CHEMICAL INC	6 LA BRISA STREET	RIO PIEDRAS	18.396986	-66.024434
SUPERIOR PAINTS MANUFACTURING CO. INC.	56 JUAN CALAF ST	HATO REY	18.426028	-66.073045
PATHEON MOVA PHARMACEUTICAL CORP	STATE ROAD 670 KILOMETER 2.7	MANATI	18.425686	-66.466301

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EPA Facility Registry System (FRS) Facility (559)

FAC_NAME	LOC_ADD	LOC_CITY	LATITUDE	LONGITUDE
CARIBBEAN PETROLEUM REFINING LP	RD 28 KM 2 LUCHETTI IND PARK	BAYAMON	18.416587	-66.133292
BECKMAN INSTRUMENTS (CARIBE) INC.	ROAD 971 A STREET EL DUQUE IND	NAGUABO	18.2125	-65.729167
PFIZER PHARMACEUTICALS LLC	ROAD 2 KM 58.2	BARCELONETA	18.432819	-66.571055
SEARLE & CO.	CALLE JARDINES #99	CAGUAS	18.241444	-66.017925
AVON MIRABELLA INC	MONTANA IND. PARK A STREET LOT	AGUADILLA	18.453059	-67.140845
CHEMSOURCE CORPORATION	RD 3 KM 143 SOUTH	GUAYAMA	17.948504	-66.154155
MILLIPORE CORPORATION	RD 172 KM 7.6	CIDRA	18.195631	-66.112101
SMITHKLINE BEECHAN PHARMACEUTICAL CO	ROAD 172 KM 9.1	CIDRA	18.198889	-66.126667
QUALITY ELECTROPLATING CORP	ROAD # 1 KM 34.2 V. BLANCA IND	CAGUAS	18.240409	-66.03531
THERMO KING DE PUERTO RICO	ROAD 6685 KM 11.2	CIALES	18.350832	-66.472402
PEPSI CO.	ROAD 172 CIDRA IND. PARK	CIDRA	18.172667	-66.157417
BETANCES CABO ROJO FILTRATION PLANT	CARRETERA 103 KM. 13.0 INTERIOR	CABO ROJO	18.037972	-67.133861
VIEQUES ARCADIA IN LINE BOOSTER PUMP STATION	M-A-F NAVY	VIEQUES	18.119333	-65.544222
MOROVIS SUR FILTRATION PLANT	STATE ROAD 618, KM 0.3	MOROVIS	18.308778	-66.406972
CESAR CASTILLO INCORPORATED	CARR #1 KM 26 BARRIO	SAN JUAN	18.302957	-66.065596
FRONTERA CREEK	RIO ABAJO NEAR ROUTE 3, KM 76.9 - 78.6	RIO ABAJO	18.15195	-65.79028
VEGA ALTA PUBLIC SUPPLY WELLS	HIGHWAY 2	VEGA ALTA	18.41806	-66.33028
V&M/ALBALADEJO	ROAD 160	ALMIRANTE NORTE WARD	18.41	-66.38
PESTICIDE WAREHOUSE III	ROAD 670 KM 3.7 PALO ALTO	MANATI	18.42913	-66.458
PESTICIDE WAREHOUSE I	ROAD # 2 KM 59.7	ARECIBO	18.43555	-66.6
BARCELONETA LANDFILL	ROAD # 666, FLORIDA AFUERA WARD	BARCELONETA	18.41055	-66.54778
JUNCOS LANDFILL	BO CIEBANORTE, ROAD 189	JUNCOS	18.2232	-65.9087
PRASA WTP CAYEY FILTER PLANT	CARR 1 KM 59.0	CAYEY	18.10039	-66.168975
US NAVAL SECURITY GROUP ACTIVITY	DE DIEGO EXPRESSWAY-INGENIO RD	SABANA SECA	18.43306	-66.19028
NORTHROP GRUMMAN PEI SITE 1	CALLE MUNOZ RIVERA #112	SANTA ISABEL	17.96502	-66.40726
TOTAL GUAYNABO BULK TERMINAL	STATE RD 28	GUAYNABO	18.427222	-66.106944
COLGATE PALMOLIVE DE PR INC	RD 31 KM 24.4 #100	JUNCOS	18.230149	-65.910122

EPA Facility Registry System (FRS) Facility (559)

FAC_NAME	LOC_ADD	LOC_CITY	LATITUDE	LONGITUDE
HARVEY HUBBELL CARIBE INC	RD 177 CORNER 174	BAYAMON	18.383334	-66.143137
PRASA SAN SEBASTIAN WTP	END OF ROAD 449	SAN SEBASTIAN	18.320806	-66.977472
NEGROS-COROZAL FILTRATION PLANT	ROAD 159, KM 11.5	COROZAL	18.286975	-66.333084
PONCE NUEVA FILTRATION PLANT	ROAD 501 KMO HM 1	PONCE	18.041944	-66.648611
PRASA WTP LUQUILLO	ROAD 983, KM 6.2	LUQUILLO	18.328333	-65.728611
PRASA LAJAS	PR ROAD #101, KM 2.4	LAJAS	18.05	-67.061667
MOROVIS STP	STATE ROAD 155, KM 50	MOROVIS	18.338056	-66.420556
HUMACAO FILTRATION PLANT	ROAD 198, KM 28.3	HUMACAO	18.156732	-65.833229
GUAYAMA REGIONAL WWTP	PR 710, KM 1.0.	GUAYAMA	17.944591	-66.143236
PRASA WTP MIRADERO FILTER PLANT	CARR 108 KM 2.8	MAYAGUEZ	18.228611	-67.141389
SACHS CHEMICAL INC	RD 175 KM 0.02 LOT 18, RIO CANA INDUSTRIAL PARK	CAGUAS	18.234166	-66.039444
PRASA AQUADILLA	SR 115 KM 25	AGUADILLA	18.390833	-67.179167
PRASA - UTUADO STP	RD 10 KM 50.5	UTUADO	18.27	-66.710278
MOLINOS DE PUERTO RICO	165 BUCHANAN	CATANO	18.411282	-66.140805
BILCHEM LTD	RD. 132 KM 23.5	PONCE	18.002222	-66.64
BFI OF PONCE INC	EL VERTEDERO MUNICIP DE PONCE ARRIO LACOTORRA	PONCE	18.008333	-66.658333
GUAYAMA FILTRATION PLANT	MIRASOL STREET INT ANGELI STREET	GUAYAMA	17.990268	-66.111282
AIR PRODUCTS OF PR	STATE ROAD 127 KM 12.7	GUAYANILLA	18.002305	-66.756315
BAXTER HEALTHCARE CORPORATION PHARMASEAL DIVISION	ROAD 165 KILOMETER 10.6	TOA ALTA	18.393551	-66.254924
	ROAD 3 KM 82.6	HUMACAO	18.147266	-65.825619
BOURNS PUERTO RICO INCORPORATED				
BRISTOL-MYERS SQUIBB MANUFACTURING CO.	ROAD 114 KM 3.2	MAYAGUEZ	18.15855	-67.155135
CARIBE GE PRODUCTS INCORPORATED	STATE ROAD 3 KM 130.2	ARROYO	17.978564	-66.039394
CARIBE PRODUCTS INCORPORATED				
CARIBE STAPLE COMPANY INCORPORATED	ROAD 992 KM 0.2	LUQUILLO	18.371573	-65.717694
CENTRAL STATES CAN COMPANY OF PUERTO RICO INCORPORATED	ROAD 341 KM 4.5	MAYAGUEZ	18.235556	-67.164167
CONSOLIDATED CIGAR CORPORATION	ROUTE 14 MONTELLANO WARD	CAYEY	18.1	-66.15

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EPA Facility Registry System (FRS) Facility (559)

FAC_NAME	LOC_ADD	LOC_CITY	LATITUDE	LONGITUDE
DESESTANERIA GOLDSCHMIDT DEL CARIBE INCORPORATED	KM 156.4 PUERTO RICO 3	SALINAS	17.967155	-66.256161
DSC OF PUERTO RICO INC	ROAD 459 KM 0.6 LOT 10 MONTANA INDUSTRIAL SITE	AGUADILLA	18.446389	-67.143056
MOTOROLA TELCARRO DE PUERTO RICO PUERTO RICO OPERATIONS	ROAD 686 KM 17.0	VEGA BAJA	18.458751	-66.394584
NASCO	BOQUERON ROAD KM 7.3	CABO ROJO	18.090278	-67.155556
OLAY LLC	RD 735 KM 2.3	CAYEY	18.135148	-66.129388
COMPANIA CERVECERA DE PUERTO RICO INC	32 POST BETANCES STREET	MAYAGUEZ	18.209444	-67.141389
PFIZER PHARMACEUTICALS, INC.	PR 689 KM 1.9	VEGA BAJA	18.451111	-66.349722
PREPA-YABUCOA GAS TURBINES POWER PLANT	RD 3 KM 86.5 BO. CANDELERO	YABUCOA	18.115003	-65.822079
EMERSON ELECTRIC CO. TERMINAL PRODUCTS DIV.	STATE ROAD NO 2 KM 163.3	HORMIGUEROS	18.136647	-67.129604
LMM AIRPORT PLANT	LUIS MUÑOZ MARIN INTERNATIONAL AIRPORT	CAROLINA	18.439444	-66.005833
HARMAN AUTOMOTIVE PUERTO RICO INCORPORATED	ROAD 2 KM 30.7	VEGA ALTA	18.413366	-66.323623
INSITUFORM DE PUERTO RICO INCORPORATED	ROAD 189 KM 5.9	GURABO	18.24869	-65.985637
LAS FLORES METALARTE INCORPORATED	ROAD 153 KM 12 HM 1	COAMO	18.049814	-66.364265
MASTERLITE PRODUCTS INCORPORATED	ROAD 2 KM 20 HM 6	TOA BAJA	18.410674	-66.233806
POWER PARTS INCORPORATED	ROAD 153 KM 7 HM 0	SANTA ISABEL	18.014584	-66.380816
PPM CHEMICAL CORPORATION OF PUERTO RICO	ROAD 862 CNR 861 PAJAROS AMERICANOS WARD	TOA BAJA	18.408333	-66.2
PUERTO RICO PIGMENTS INCORPORATED	STREET A EXIT ROAD 686	VEGA BAJA	18.45	-66.388056
LUTRON SM INC.	CARR#909, KMO.2 SECTOR B.O. MARIANA2	HUMACAO	18.108427	-65.868422
TIMEPLEX CARIBE LIMITED	ROAD 189 KM 12 HM 4	JUNCOS	18.239407	-65.929458
WESTINGHOUSE DE PUERTO RICO COMPUTER AND INSTRUMENTATION DIVISION	ROAD 151 KM 1 HM 1	VILLALBA	18.128945	-66.481188
WESTINGHOUSE PRODUCTOS PUERTO RICO DIVISION	D STREET GUANAJIBO INDUSTRIAL PARK	MAYAGUEZ	18.24098	-67.1353
FENWAL BLOOD TECHNOLOGIES	RD 122 KM 0.5	SAN GERMAN	18.046194	-67.052732
ST. JUDE MEDICAL PUERTO RICO LLC	CAGUAS WASTE INDUSTRIAL PARK	CAGUAS	18.240876	-66.046245

EPA Facility Registry System (FRS) Facility (559)				
FAC_NAME	LOC_ADD	LOC_CITY	LATITUDE	LONGITUDE
ZIMMER MANUFACTURING B.V.	STATE RD PR 1 KM 123.4 BLDG 1	MERCEDITA	18.010526	-66.597562
AGUAS BUENAS STP	STATE RD 173 KM 0.1	AGUAS BUENAS	18.260833	-66.102222
LUQUILLO WASTEWATER TREATMENT PLANT	STATE RD 991 KM 0.1	LUQUILLO	18.369556	-65.715485
CIALES STP	STATE RD 144 KM 12.1	CIALES	18.348611	-66.468611
PRASA SAN GERMAN	STATE RD 360 KM 1.4	SAN GERMAN	18.081346	-67.041343
SANTA ISABEL OLD & NEW WASTEWATER TREATMENT PLANTS	STATE RD 538 KM 0.5	SANTA ISABEL	17.965556	-66.421667
PRASA VEGA ALTA STP	STATE RD 690 KM 2.0	VEGA ALTA	18.429444	-66.340833
YABUCOA WASTEWATER TREATMENT PLANT	STATE RD 901 KM 0.1	YABUCOA	18.049875	-65.869816
MEDTRONIC PR INC	RD 149 KM 56.3	VILLALBA	18.103158	-66.507736
CHESEBROUGH PONDS MFG CO	RD 183 KM 21.2	LAS PIEDRAS	18.176109	-65.874158
ASHLAND DISTRIBUTION CO	4TH ST BLDG 4 LOS PALMAS IND	CATANO	18.426221	-66.146459
OSRAM SYLVANIA PR CORP	RD PR 992 KM 0.5 LOT 15	LUQUILLO	18.369302	-65.719246
BAXTER HEALTHCARE OF PUERTO RICO	RD 721 KM 0.3	AIBONITO	18.137284	-66.259279
NCH CORPORATION PUERTO RICO	PR INDUSTRIAL PK 65TH IFANTRY	CAROLINA	18.417706	-65.975688
TO-RICOS INC	PR 14 KM 48 ASOMANTE WARD	AIBONITO	18.130899	-66.27565
PALL BIOMEDICAL INC	RD 194 KM 0.4	FAJARDO	18.303545	-65.648755
PAN AM SHOE CO	PR RD 119 KM 3.0	CAMUY	18.483826	-66.837224
ICI PAINTS PUERTO RICO INC	65 INFANTRY AVENUE KM 13.4	CAROLINA	18.375115	-65.939159
ALUMINUM EXTRUSSION CORP	RD 185 KM 0.65	CANOVANAS	18.373702	-65.899955
BRISTOL-MYERS SQUIBB MANUFACTURING CO	STATE RD 2 KM 56.4	BARCELONETA	18.429335	-66.558136
EMERSON PUERTO RICO INC	ROAD 693 KM 7.3	DORADO	18.465941	-66.292768
GE INDUSTRIAL OF PUERTO RICO LLC	STATE RD 3 KM 82.0	HUMACAO	18.149008	-65.822134
BANNER PUERTO RICO PAINTS INC	RD 1 KM 32	CAGUAS	18.260126	-66.037356
PETROLEUM CHEMICAL CORPORATION	URB INDUSTRIAL LUCHETTI LOT 36	BAYAMON	18.42	-66.138611
GOYA DE PUERTO RICO INC.	LUCHETTI INDUSTRIAL PARK	BAYAMON	18.416667	-66.145833
OCHOA INDUSTRIAL SALES CORP	869 ST BO PALMAS IND PARK	CATANO	18.425556	-66.155556
ABBOTT CHEMICALS INC	RD 2 KM 58.0	BARCELONETA	18.440278	-66.566944

EPA Facility Registry System (FRS) Facility (559)				
FAC_NAME	LOC_ADD	LOC_CITY	LATITUDE	LONGITUDE
HARRIS PAINTS CORP	25 C STREET	BAYAMON	18.390737	-66.140695
RAYCHEM INDUSTRIES INC	RD 686 KM 10	VEGA BAJA	18.480998	-66.428883
CARIBE GENERAL ELECTRIC PRODUCT - MANATI	STATE HWY 2 KM 47.7	MANATI	18.434674	-66.469175
CARTET PD INC	RTE 115 KM 12.9	RINCON	18.336376	-67.2523
WARNER CHILCOTT PUERTO RICO LLC FORMER (P&G)	RD 2 KM 45.7	MANATI	18.439227	-66.45087
HEMISPHERE OIL CO INC	RTE 901 KM 2.8	YABUCOA	18.044931	-65.853184
CHACE PRECISION MATERIALS CORP	CARR 190 KM 615 SABANA ABAJO	CAROLINA	18.412415	-65.982182
RELIANCE UNIVERSAL OF PR INC	LUCHETTI INDUSTRIAL PARK	BAYAMON	18.414287	-66.14063
UCAR RESINAS CARIBE INC	LUCHETTI IND PARK LOT 38 B ST	BAYAMON	18.418842	-66.138464
CEMEX DE PUERTO RICO INC	STATE RD #10	PONCE	18.021111	-66.639167
GE INDUSTRIAL OF PUERTO RICO LLC	EL RETIRO INDUSTRIAL AREA	SAN GERMAN	18.075983	-67.026226
PAMCOR INC	PR RD 183 KM 18.3	LAS PIEDRAS	18.174933	-65.899114
DADE DIAGNOSTICS OF PR INC	RD 115 KM 22.6	AGUADA	18.380797	-67.191301
BASF AGRICULTURAL PRODUCTS DE PUERTO RICO	STATE ROAD 2 KM 47.3	MANATI	18.428264	-66.497315
MODINE DE PUERTO RICO INC	RD A KM 49 BO BEATRIZ	CIDRA	18.161944	-66.097778
HOLSUM DE PUERTO RICO INC	KM 20.5 ST RD 2 STAR RTE 782	TOA BAJA	18.408055	-66.2375
AVENTIS PHARMACEUTICALS PR INC	RD 604 SAN JOSE COTTO NORTE INDUSTRIAL PARK	MANATI	18.435278	-66.477778
BARD SHANNON LTD	STREET A LOTS 3 & 5	LAS PIEDRAS	18.161111	-65.859722
WYETH AYERST LEDERLE, LLC. (FMR. WYETH-CAROLINA)	65TH INFANTRY AVENUE KM 9.7	CAROLINA	18.381655	-65.965963
BAXTER HEALTHCARE CORP OF PR CAROLINA	STATE RD 887 KM 1.3	CAROLINA	18.387117	-65.980834
CIBA VISION CIDRA PUERTO RICO	RD 173 KM 1.1 BLDG #1	CIDRA	18.154802	-66.233261
MAYCOM AMP PUERTO RICO INC	ZENO GANDIA IND ZONE A ST	ARECIBO	18.458889	-66.723611
DSC OF PUERTO RICO INC	WEST INDUSTRIAL SITE BLDG 1	AGUADA	18.375	-67.208333
ABB POWER T & D CO INC	ST GUANAJIBO INDUSTRIAL PARK	MAYAGUEZ	18.161944	-67.161944
MDI CARIBE LTD	LUCHETTI INDUSTRIAL PARK LT 41	BAYAMON	18.378	-66.166
POWER CONVERSION CARIBE INC	LA PLAYA IND PARK ST B BLDG #3	SANTA ISABEL	17.96	-66.401944

EPA Facility Registry System (FRS) Facility (559)

FAC_NAME	LOC_ADD	LOC_CITY	LATITUDE	LONGITUDE
PATHEON PUERTO RICO INC	STATE ROAD 1 KM 34.3	CAGUAS	18.239507	-66.035257
LILLY DEL CARIBE INC CAROLIN A	KM 12.6 65TH INFANTRY RD	CAROLINA	18.379444	-65.944167
ANTILLES ELECTROPLATING CORP	75 CALLE D	BAYAMON	18.3775	-66.142222
SCHERING-PLOUGH PRODUCTS LLC	RD 183 PRIDCO INDUSTRIAL PARK	LAS PIEDRAS	18.18548	-65.87002
NORTHROP GRUMMAN PEI SITE 2	REPARTO INDUSTRIAL LA PLAYA	SANTA ISABEL	17.96	-66.404722
SIGNAL CARIBE INC	CARR 848 KM 1.6 ST. JUST	SAINT JUST	18.377875	-66.003854
CUTLER HAMMER DE PR INC	RD 103 FOMENTO ST	CABO ROJO	18.0725	-67.141389
DSC OF PUERTO RICO INC	WEST INDUSTRIAL SITE BLDG 9	AGUADA	18.375	-67.208333
ESSILOR INDUSTRIES	SABANETA INDUSTRIAL PARK	PONCE	18.00951	-66.53916
ETHICON, LLC	CARR PR 183 KM 8.3	SAN LORENZO	18.19947	-65.975185
OWENS ILLINOIS SPECIALTY PRODUCTS	RTE 183 KM 18.1	LAS PIEDRAS	18.174794	-65.900977
PRASA LA PLATA FILTERING PLANT	RD 827 KM 7.0	TOA ALTA	18.352778	-66.225
MYLAN INC	RD 156 KM 58.3	CAGUAS	18.247222	-66.059722
GUIDANT PUERTO RICO, BV/BOSTON SCIENTIFIC	STATE ROAD # 698 LOT # 12	DORADO	18.473151	-66.2665
ARBROOK MANUFACTURING CORP	ST RD 156 KM 58.8	CAGUAS	18.228889	-66.049722
CONGAR INTERNATIONAL CORP TOBACCO THRESHING	STATE RD 778 PASARELL WARD	COMERIO	18.216667	-66.233333
FIVE STAR PRODUCTS INC	HWY 693 KM 7.3	DORADO	18.465941	-66.292768
ECOLAB MANUFACTURING, INC.	DORADO INDUSTRIAL PARK	DORADO	18.457222	-66.278056
MATSUSHITA ELECTRIC OF PR INC	ST 1 BAIROA INDUSTRIAL PK	CAGUAS	18.263333	-66.045556
SOUTH PEARL CHEMICAL INC	RD 127 KM 17.1 TALLABOA	PENUELAS	18.006366	-66.735199
HEWLETT-PACKARD CARIBE BV SITE	STATE RD 3110 KM 5.1 AGACATE	AGUADILLA	18.488889	-67.111667
ZENITH LABORATORIES CARIBE, INC.	RD 721 KM 0.1 CIDRA IND PARK	CIDRA	18.176733	-66.158433
MAYAGEZ VIEJA FILTRATION PLANT	RAMOS ANTONINI ST	MAYAGUEZ	18.202361	-67.125528
NATIONAL PACKING CO	AVE SANTIAGO	PONCE	18.036686	-66.646804
INDUSTRIAL CHEMICALS CORP	ROAD 127 KM 19 HM 1	PENUELAS	17.992778	-66.728333
ECOELECTRICA LP	ROAD 337 KM 3.7	PENUELAS	18.05409	-66.713347
CHALLENGER CARRIBBEAN BREAKER	STATE RD 686 KM 1.7 LOT #14	VEGA BAJA	18.454555	-66.385416

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—FOR OFFICIAL USE ONLY (FOUO)—

EPA Facility Registry System (FRS) Facility (559)

FAC_NAME	LOC_ADD	LOC_CITY	LATITUDE	LONGITUDE
PR AQUEDUCT & SEWER AUTH - CAROLINA STP	PR 187 KM 2.0	LOIZA	18.438056	-65.885556
HARVEY HUBELL CARIBE INC	STATE RD 725 KM 0.4	AIBONITO	18.152644	-66.298064
ISABELA FILTRATION PLANT	PR 112 KM 2.8 BO MORA	ISABELA	18.47475	-67.030281
CAMUY HATILLO WASTEWATER TREATMENT PLANT	PR 485 BO MEMBRILLO BAJURA	CAMUY	18.488744	-66.875578
COOPERVISION CARIBBEAN CORPORATION	500 PR-584	JUANA DIAZ	18.015139	-66.533845
VILCO CHEMICAL	PR RD #1 KM 19.9	RIO PIEDRAS	18.338629	-66.095554
RATTAN INDUSTRIES INC.	PR RD 1 KM 29.85 S	CAGUAS	18.278939	-66.042225
PHILIPPE GUEX FASTENING & TOOLING CO	PR RD 690 KM 5.2 BO BRENAS	VEGA ALTA	18.46152	-66.346562
CUTLER HAMMER ELECTRICAL CO	RD 308 KM 0.9 PEDERNALES WARD	CABO ROJO	18.092923	-67.180621
PRASA - CAGUAS RWWTP	RD 796 KM 6.6	CAGUAS	18.2615	-66.027167
CEPH INTERNATIONAL CORP	STATE RD 3 KM 12.6	CAROLINA	18.375114	-65.946704
EATON CORP LAS PIEDRAS	CARRETERA 183 KM 20.3	LAS PIEDRAS	18.176388	-65.873888
R J REYNOLDS TOBACCO CO	RD. 3 KM 90.4 BO. AGUACATE	YABUCOA	18.090278	-65.853889
MATOUK IND. INC.	ZONA INDL., GUANAJIBO CASTILLO	MAYAGUEZ	18.216667	-67.15
IMPRESS PACKAGING PR INC	RD. 64 LOT 3051	MAYAGUEZ	18.247643	-67.167694
A & P PROOFING INSULATION INC	PO BOX 146	CANOVANAS	18.383333	-65.9
CARIBBEAN ELECTROPLATING INCORPORATED	RD. 869 KM. 0.5 BO. PALMAS	CATANO	18.43102	-66.151738
BIOVAIL LABORATORIES INC	RD 698 KM 0.8 BO MAMELLAL	DORADO	18.468234	-66.267875
COCA-COLA BOTTLING CO OF PR	AVENIDA DE DIEGO	SAN JUAN	18.399167	-66.025833
BAYAMON CONCRETE	CARR 2 KM 14.3	BAYAMON	18.40355	-66.178197
NATIONAL CAN	PR869 KM1.1 BO PALMA_IND.PARK	CATANO	18.426796	-66.148517
PREPA-DAGUAO GAS TURBINES POWE R PLANT	PR 3 KM 58.3	CEIBA	18.264954	-65.647929
PRO GRANOS	PR 333 KM 1.9	GUANICA	17.962732	-66.904202
V'SOSKE SHOPS INC	RD 155 INT 670 BO PUGNABO	VEGA BAJA	18.445	-66.375556
AMI GIBSON, INC. PLANTA II	ROAD 992 LOT #7 KM 0.3	LUQUILLO	18.370825	-65.718227
CUTLER HAMMER ELECTRICAL CO	PR-2 KM 67.6 SANTANA IND.PARK	ARECIBO	18.444873	-66.649872
FLOR QUIM INCORPORATED	ROUTE #3 KM.111 BO.GUARDARRAYA	PATILLAS	17.982203	-65.908919

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PUERTO RICO CATASTROPHIC PLANNING ANNEX
FOR OFFICIAL USE ONLY (FOUO)

EPA Facility Registry System (FRS) Facility (559)

FAC_NAME	LOC_ADD	LOC_CITY	LATITUDE	LONGITUDE
COMMONWEALTH OIL REFINING CO., INC.	ROAD 127 KM 17.3	PENUELAS	18.004717	-66.744443
GE INDUSTRIAL OF PR LLC	ROAD 686, KM 17.4 CABO CARIBE INDUSTRIAL	VEGA BAJA	18.455996	-66.392966
SCORPIO RECYCLING, INC	RD 2, KM 19.7 ACUNA INDUSTRIAL PARK CA	TOA BAJA	18.40916	-66.23194
CARIBE FURNITURE MANUFACTURING INC	RD 861 KM5 BARRIO CINCAS	TOA ALTA	18.375	-66.208333
GULF CHEMICAL CORP	CARR. 384, KM. 0.4	PENUELAS	18.030609	-66.729627
AIR MASTER AWNING INC	CARR 155 KM 48.5	MOROVIS	18.373162	-66.425285
ALCON PUERTO RICO, INC	ROAD 925 KM 7.6 JUNQUITO WARD	HUMACAO	18.161111	-65.8
PUERTO NUEVO REGIONAL WWTP	RD 2, KM 2	SAN JUAN	18.438136	-66.083569
ARMSTRONG PAINT OF PURETO RICO INC	RD 188 KM 0.7, URB ISIDRO	CANOVANAS	18.37345	-65.885528
LIQUID AIR PUERTO RICO	ROAD 869 KM 1.8 PALMAS WARD	CATANO	18.4325	-66.153056
ALLERGAN OPTICAL	SANTA ISABEL INDUSTRIAL PK A-10	SANTA ISABEL	17.958333	-66.408333
CLOROX MANUFACTURING CO OF PUERTO RICO INC	RD 1 KM 27	CAGUAS	18.297671	-66.060938
MANUFACTURERS BERRIOS	RD 1, KM 28.5	CAGUAS	18.290224	-66.046383
BAYAMON STEEL PROCESSORS, INCORPORATED	LUCHETTI INDUSTRIAL PARK STREET B	BAYAMON	18.4275	-66.141111
EMPIRE TEXTILE CORP.	CARR. 159 KM 13.4	COROZAL	18.352164	-66.29752
RIO BLANCO - HUMACAO FILTRATION PLANT	CARR. 31, KM 9.9	NAGUABO	18.215556	-65.785833
COMMONWEALTH BATTERY DEVELOPMENT INC	RD 2 KILOMETER 111.2	ISABELA	18.46694	-67.01055
AYERST-WYETH PHARMACEUTICALS WHITEHALL LABORATORIES DIV.	RD. #3 KM 141.3	GUAYAMA	17.9675	-66.145556
PACKAGING UNLIMITED INC	AMELIA INDUSTRIAL PARK	GUAYNABO	18.420833	-66.111944
CIDRA GROUNDWATER CONTAMINATION	ROAD 171 (SOUTH OF THE VILLAGE OF CIDRA	CIDRA	18.17527	-66.16194
PRASA ADJUNTAS STP	CANSAS STREET AT THE END	ADJUNTAS	18.168333	-66.728611
PRASA JUNCOS	END OF DELFAUS STREET	JUNCOS	18.231944	-65.918333
PRASA MAYAGUEZ WWTP	STATE RD #2 KM 32.8	MAYAGUEZ	18.249167	-67.154444
PRASA SABANA GRANDE STP	GUANAJIBO RIVER ROAD	SABANA GRANDE	18.074722	-66.964722
PRASA TOA ALTA HEIGHTS	STREET 29	TOA ALTA	18.368333	-66.210556

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EPA Facility Registry System (FRS) Facility (559)

FAC_NAME	LOC_ADD	LOC_CITY	LATITUDE	LONGITUDE
PRASA YAUCO	CARRETERA 128 KM. 2.6	YAUCO	18.051139	-66.853361
PRASA UTUADO URBANO	CARR. 111 KM 5.4	UTUADO	18.243962	-66.671052
MAX CHEMICAL INC	LA BRISAS ST. NO. 5	SAN JUAN	18.39638	-66.02278
STERLING	ROUTE 140, KM. 64.4	BARCELONETA	18.42777	-66.55139
STRYKER PUERTO RICO LTD	HWY 3 KM 131.0 LAS GUASIMAS	ARROYO	17.974701	-66.045777
WALMART #3716	CARR 2 KM 45.8 PLZ MONTE REAL	MANATI	18.439627	-66.44649
UNION CARBIDE FILMS PACKAGING INCORPORATED	HIGHWAY 2 KM 56.7 CRUZE DAVILA	BARCELONETA	18.433604	-66.550429
D D WILLIAMSON	STATE RD 189 KM 5.8	GURABO	18.248692	-65.986583
CARNIVAL DESTINY 1MO#9070058	PORT SAN JUAN PIER 4 & 6	SAN JUAN	18.36552	-66.06852
BALL METAL BEVERAGE CONTAINER	STATE ROAD #3 KM 140.8	GUAYAMA	17.962778	-66.135
BACARDI CORP	RD 165 KM 2.6	CATANO	18.461667	-66.141389
STORAGE TECHNOLOGY CORP DE PR INC	RD 951 EL TUQUE INDUSTRIAL PARK	PONCE	17.988538	-66.651874
MANUFACTURING TECH. SERVICES	AQUAMARINA NUM. 100 VILLA BLANCA	CAGUAS	18.25	-66
POSITRONIC CARIBE	3057 CARRETERA # 591 EL TUQUE INDL. PARK	PONCE	17.987222	-66.653055
SOLECTRON PUERTO RICO AGUADILLA PLANT	LOT 10-11 ROAD 459 MONTANA INDUSTRIAL PARK	AGUADILLA	18.449166	-67.143055
GULF CHEMICAL CORP	RD 127 KM 18.4	PENUELAS	18.012778	-66.732778
DSC OF PUERTO RICO INC	WEST INDUSTRIAL SITE BLDG 8	AGUADA	18.375	-67.208333
CROWN BEVERAGE PACKAGING	PR IND PARK KM 12.6 PR-3	CAROLINA	18.380278	-65.942778
WARNER CHILCOTT COMPANY, LLC	UNION ST. KM 1.1 CARR 195	FAJARDO	18.333689	-65.639307
FENWAL INTERNATIONAL INC	ROAD 357 KM 0.8	MARICAO	18.18642	-66.985694
HUMACAO MUNICIPAL LANDFILL	CARR 3 - KM 78.2	HUMACAO	18.10055	-65.82577
LINDE GAS PR INC. GUAYANILLA	STATE RD 127 KM 12 HM 7	GUAYANILLA	18.002305	-66.756315
PRASA - JAYUYA WWTP (NEW)	ROAD 144 KM.1.0 (INTERIOR)	JAYUYA	18.202833	-66.626194
VWR INTERNATIONAL LLC	CARR 686 KM 1.3 INTERSEC. 670	MANATI	18.426221	-66.462558
EATON CORP	RD 874 KM 1.1 TORRECILLA ALTA	CANOVANAS	18.39608	-65.951561
BP PRODUCTS NORTH AMERICA INC AIR BP DIV LMMI AIRPORT	AIRPORT FUEL FACILITY BASE MUNIZ, LMMI AIRPORT	CAROLINA	18.440277	-65.998333
UNITED CARIBBEAN CONTAINER LTD	KM 1.1 RD 690	VEGA ALTA	18.450889	-66.343515

EPA Facility Registry System (FRS) Facility (559)

FAC_NAME	LOC_ADD	LOC_CITY	LATITUDE	LONGITUDE
OWENS ILLINOIS DE PR	RD 690 KM 1.1 SALANA HUGOS WARD	VEGA ALTA	18.431631	-66.33645
MAUNABO URBANO PUBLIC WELLS	STATE ROAD #3, KM 110.2	MAUNABO	18.005722	-65.905417
MISTOLIN CARIBE INC	CALLE "A" # 28 LUCHETTI INDUSTRIAL PARK	BAYAMON	18.443333	-66.158333
DAREX DE PUERTO RICO INC.	#2 HWY KM20.5	TOA BAJA	18.4125	-66.244444
TRISTANI RUBBER INDUSTRIES INC	NO. 26 CALLE C HWY. 2 KM. 15.1	BAYAMON	18.412222	-66.191111
MICRON TECHNOLOGY PUERTO RICO INC	RD 110 KM 5.9 LOT 10	AGUADILLA	18.472029	-67.103341
SYMMETRICON PUERTO RICO LIMITED	LA MONTANA INDUSTRIAL PARK ST B LOT 52	AGUADILLA	18.456388	-67.138333
BULL BOND MANUFACTURING CORP	RIO CANAS INDUSTRIAL PARK LOT 35	CAGUAS	18.301666	-66.050555
BD CARIBE LTD LAS PIEDRAS	RD 183 KM 20.3	LAS PIEDRAS	18.17806	-65.87361
AMGEN MANUFACTURING, LIMITED	RD 31 KM 24.6	JUNCOS	18.227336	-65.93301
SEAMLESS TEXTILES	#3 ST 83.6 KM	HUMACAO	18.138472	-65.827179
SAN GERMAN GROUND WATER CONTAMINATION	STATE ROAD #122 (ALSO KNOWN AS ROAD 119)	SAN GERMAN	18.082617	-67.033904
PRASA BAYAMON	SABANA SECA AVE	BAYAMON	18.445556	-66.152222
LIFESCAN PRODUCTS LLC	CALL BOX 31000	SAN ANTONIO	18.472029	-67.103341
CURTIS INSTRUMENTS (PR) INC	PUERTO RICO INDUSTRIAL PARK KM 126 65TH INFANTRY R	CAROLINA	18.376944	-65.94
SYLVANIA MFG. CO., ELECTRONIC COMPONENTS DIV.	RD. 909 KM. 0.2	HUMACAO	18.108427	-65.868422
SENSORMATIC PUERTO RICO INC.	STATE RD 110 N, KM. 5.8 SAN ANTONIO WARD	AGUADILLA	18.484799	-67.111559
MOVA PHARMACEUTICAL CORP	STATE RD 1 KM 34.3 VILLA BLANCA INDUSTRIAL PARK	CAGUAS	18.2072	-66.0519
PRODUCTOS ELECTRONICOS INDUSTRIALES (PEI)	116 MUNOZ RIVERA ST PO BOX 2802	SANTA ISABEL	17.96502	-66.40726
INDULAC	198 CHARDON AVE	HATO REY	18.424572	-66.064852
BARD SHANNON LTD	RD 3 KM 76.7, LOT 1,2 & 3	HUMACAO	18.145345	-65.826025
NATIVE CHEMICALS	RD.718 KM.0.9 BO.PASTO SECTOR CARDIN	AIBONITO	18.119312	-66.270567
DELTA PACKAGING CO. INC.	JULIO MATOS IND PARK, BLDG 10	CAROLINA	18.416755	-65.9703
ARROYO MANUFACTURING INC. (PREVIOUSLY REGISTERED AS ARROYO CONNECTOR INC.)	STATE ROAD PR-3 KM 130.0	ARROYO	17.975364	-66.044693

EPA Facility Registry System (FRS) Facility (559)

FAC_NAME	LOC_ADD	LOC_CITY	LATITUDE	LONGITUDE
COATINGS INC & CO	404 MINILLAS INDUSTRIAL PARK, E ST	BAYAMON	18.37638	-66.14028
NYPRO PUERTO RICO INC	ST #15 KM 25.4 LUIS MUNOZ MARIN AVE	CAYEY	18.109444	-66.159722
CIDRA NUEVA FILTRATION PLANT	CARR. 783 FINAL; CARR. 173, KM 3.3	CIDRA	18.1958	-66.141296
ISLAND CAN CORP.	INTERSECTION PR-2 & PR-167, 167	BAYAMON	18.416667	-66.145833
LILLY DEL CARIBE, INC - PR02/PR05	KM 12.6 65TH INFANTRY ROAD	CAROLINA	18.383333	-65.945833
ST. JUDE MEDICAL PUERTO RICO LLC	CARR 2 KM 67.5 INTERIOR LOTE A	ARECIBO	18.47977	-66.69049
PRASA CIDRA URBANO	ROAD 173, KM 3.3	CIDRA	18.197778	-66.142778
PRODUCTOS AVICOLAS DEL CARIBE	ROAD 14 KM. 37.3	COAMO	18.081389	-66.331111
GUIDANT PR BV	12 LOT, 698 RD MAMEYAL	DORADO	18.47583	-66.26654
JAYUYA NUEVA WASTEWATER TREATMENT PLANT	PR-144, KM 1.1	JAYUYA	18.217859	-66.598656
LAS RUINAS	MUNICIPAL ROAD 107, BORINQUEN WARD	AQUADILLA	18.43499	-66.121376
SUIZA DAIRY CORPORATION	SAN PATRICIO & DE DIEGO AVENUES	SAN JUAN	18.391944	-66.083885
ESPINO LARES FILTRATION PLANT	STATE ROAD PR-124 KM7.9	LARES	18.257061	-66.912109
SACHS CHEMICAL, INC.	P.R. ROAD 175, KM, 0.02, LOT 18	CAGUAS	18.298333	-66.055
SYNGENTA SEEDS INC C/O FINCA SERRANO	RD #1 KM 115.0	JUANA DIAZ	17.993951	-66.48866
SYNGENTA SEEDS INC - FINCA POTOLA	RD #1 KM 149.0	SALINAS	18.053176	-66.241753
B.A.R. GROUP INC	E ST M-0755-66-2 CENTRO INDUSTRIAL MINILLAS	BAYAMON	18.37396	-66.14129
OLIVER EXTERMINATING	CALLE UTUADO #16	HATO REY	18.414865	-66.054801
APP PHARMACEUTICAL MANUFACTURING LLC	STATE ROAD 140 KM 64.4	BARCELONETA	18.450889	-66.540873
HOMECA RECYCLING CENTER	PR 309, KM 1.4	HORMIGUEROS	18.138909	-67.139763
ADM ALLIANCE NUTRITION OF PR	10 TOMAS DAVILA AVE	BARCELONETA	18.452756	-66.540381
ECOLOGIC PR RECYCLING INC	CARR 2 MARGINAL KM 97.9	QUEBRADILLAS	18.458964	-66.918643
PRPA - CAPE AIR C/O JET CENTER INC HANGA	RTE 575 CENTRAL SECTOR	CAROLINA	18.40135	-65.97932
CANOVANAS NUEVA WATER FILTRATION PLANT	PR # 3 KM. 18.4	CANOVANAS	18.376819	-65.881123
COLON AUTO REPAIR	CARR 796 KM 4.0	CAGUAS	18.25612	-66.033501
TOTAL PETROLEUM PUERTO RICO CORP SS 3289	402 EDUARDO CONDE AVE	SANTURCE	18.44418	-66.05964

EPA Facility Registry System (FRS) Facility (559)				
FAC_NAME	LOC_ADD	LOC_CITY	LATITUDE	LONGITUDE
MC NEIL HEALTHCARE LLC (HERSHEYS)	CARR 30 KM 21.2	LAS PIEDRAS	18.16784	-65.87525
ROCHE PRODUCTS, INC.	CARR. 670, KM. 2.7	MANATI	18.420869	-66.479746
CENTRAL LA PLATA	PR 125	SAN SEBASTIAN	18.338317	-66.996761
ALIMENTOS BORINQUENOS	PR 153 KM 1.2	SANTA ISABEL	18.014288	-66.381987
UNION CARBIDE GRAFIT	CARR 3 KM 89.0	YABUCOA	18.0463	-65.87403
CENTRAL ROIG	CARR 3 KM 94.7	YABUCOA	18.0463	-65.87403
CANTERA MONTE GRANDE	CARR 313 KM 1.7 SECTOR BALLAJA	CABO ROJO	18.076374	-67.140172
ANTIGUO HOSPITAL MENONITA	4 HERACLIO MENDOZA STREET	CAYEY	18.1121	-66.1661
SAN GERMAN WASTE DISPOSAL SITE	STATE ROAD NO. 2, KILMOETER 172.8	SAN GERMAN	18.1011	-67.041
NAVAL SECURITY GROUP ACTIVITY	NSGA SABANA SECA NVL BASE- AUTOPISTA JOSE DE DIEGO	SABANA SECA	18.422117	-66.198852
A¿ASCO FILTRATION PLANT	STATE ROAD 109 KM 5.4 INTERIOR	A¿ASCO	18.279722	-67.118332
BACARDI CORPORATION	ROAD #165, KM 6.2	CATA¿¿O	18.45867	-66.143116
ACUEDUCTO REGIONAL DEL NORESTE (PF FAJARDO NUEVA)	STATE ROAD PR-53 EXIT 2	FAJARDO	18.295021	-65.652733
TECH AEROFOAM PRODUCTS INTERNATIONAL	ROSENDO VELA LOT # 6	CAROLINA	18.37694	-65.97306
CULEBRINAS FILTRATION PLANT	STATE ROAD PR-443 KM-5.9	AGUADILLA	18.407028	-67.141075
TOA VACA, VILLALBA FILTRATION PLANT	PR-150 KM. 5.6	VILLALBA	18.09797	-66.486033
WALMART # 2240	PLAZA PALMA REAL PR#3 KM77.6	HUMACAO	18.148288	-65.784232
WALMART #1822	150 CARR. 940	FAJARDO	18.349488	-65.678818
ALUMINIO DEL CARIBE	PR STATE ROAD #3 KM 77.4	HUMACAO	18.148814	-65.781663
HATO REY ELECTROPLATING	611 BARBASA AVENUE, BARRIO OBRERO WARD	SANTURCE	18.41251	-66.042989
JOSE JULIAN ACOSTA SCHOOL	118 LUIS MUNOZ RIVERA AVENUE	CAMUY	18.483817	-66.846995
SUBLISTATICA	CARRETERA AGUADILLA	ISABELA	18.50623	-67.029884
NATIONAL CIRCUITS	INDUSTRIAL PARK REAL WARD	FAJARDO	18.340215	-65.640889

Graph 4E: Pharmaceutical Preparations Manufacturing Facilities

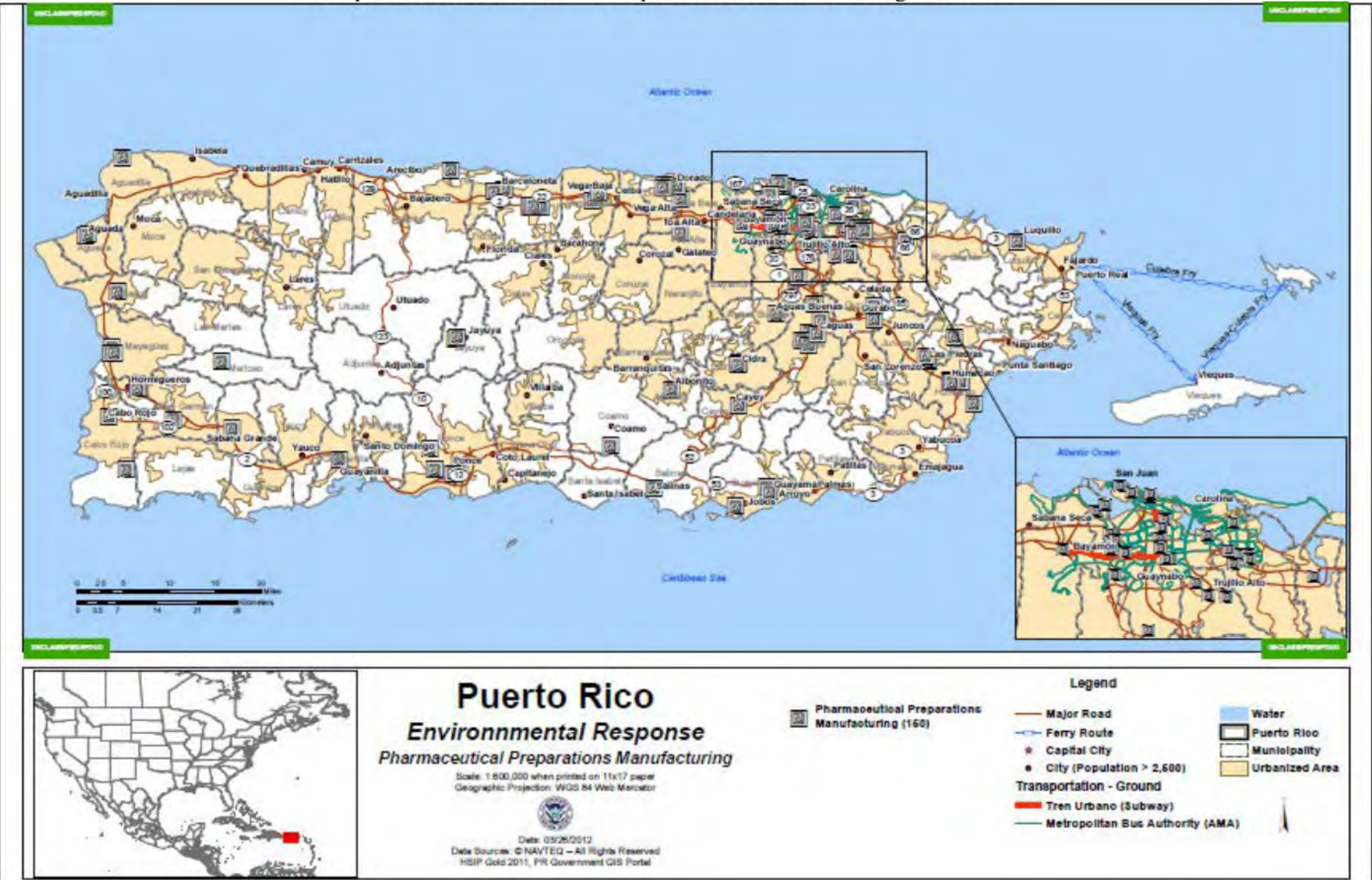


Table 4E: Pharmaceutical Preparations Manufacturing Puerto Rico Data

Pharmaceutical Preparations Manufacturing (150)				
Business Name	Address	City	Latitude	Longitude
Amanda Larragoity	Camino Del Mar 2002 Plyr St Camino Del M	TOA Baja	18.43771	-66.2528
Lilly Del Caribe, Inc.	Ave 65 Infanteria	Carolina	18.38288	-65.98058
Bristol-Myers Squibb Holdings Pharmaceuticals Ltd	Km 2/3 Sectr RR 686	Manati	18.42619	-66.48495
Legacy Pharmaceuticals	909 Bo Mariana Rd	Humacao	18.15001	-65.81229
Riviv, L.L.C.	32a Blq 3e 25 Terrazas D	TOA Alta	18.38359	-66.25378
Pure Med Corp	107 El Tuque Indus Park	Ponce	18.0114	-66.6404
Coqui Radio Pharmaceuticals, Corp.	Urb Santa Rosa # 11	Bayamon	18.444515	-66.11186
Wyeth-Ayerst Lederle Inc	Ave 65th Inf Km 9 HM 7	Carolina	18.38288	-65.98058
Merck Sharp & Dohme Corp.	Puerto Rico Industrial PA	Carolina	18.39306	-65.97369
Flar Medicine of Puerto Rico Inc	330 Ave Santiago	Ponce	18.0428	-66.6477
Integra Lifesciences Holdings Corporation	Km 1/2 RR 402	Anasco	18.29098	-67.14012
Somerset Caribe, Inc	Caguas W RR 156	Caguas	18.4287	-66.0514
Merck Sharp & Dohme Corp.	60.3 Calle 2	Barceloneta	18.44936	-66.54586
Lilliam Casanova Ortiz Botanicas	4 Calle Industria	Dorado	18.457942	-66.258839
Baxter Healthcare Corporation	250 Rd 144	Jayuya	18.2181	-66.6052
Alara Pharmaceutical	1 Kilometer 33 3 Angora	Caguas	18.35243	-65.98901
Pfizer Pharmaceuticals Inc	Km 58 HM 2 RR 2	Barceloneta	18.4528	-66.53074
Legacy Pharmaceuticals	Bo Mariana Rd 909	Humacao	18.15001	-65.81229
Cardinal Health 302 LLC	Road 138 Lot 14 Bldg 5	Las Piedras	18.1823	-65.86339
Pfizer Pharmaceutical LLC	99 Calle Jardines	Caguas	18.2276	-66.0517
Eli Lilly Industries, Inc	Km 146 7 RR 2	Mayaguez	18.19545	-67.15037
Patheon Puerto Rico, Inc.	65th Infanteria Km 12 6	Carolina	18.3977	-65.9863
P R Patheon LLC	2 Calle Aquamarina Villa	Caguas	18.2466	-66.0327
Bristol-Myers Barceloneta Inc	Km 56 HM 4 RR 2	Barceloneta	18.4528	-66.53074
Bristol-Myers-Squibb Laboratories Co	Foreign Trade Zone # 7	Mayaguez	18.2034	-67.1488
Abbott Laboratories	Km 58 0 Cruce Davila RR 2	Barceloneta	18.44936	-66.54586
Bioprob De PR Inc	Ave Nereidas 70 Ste 301	Catano	18.444515	-66.11186
Kelly A Lowder	131 Calle U	Aguadilla	18.5027	-67.1319
Baxter Healthcare Corporation	Km 0 3 RR 721	Aibonito	18.13689	-66.26746
I P R Pharmaceutical, Inc	Sabana Gardens Ind Park	Carolina	18.39306	-65.97369
B-C-P Sciences Consulting Corp	A26 Urb Moropo	Aguada	18.3803	-67.19
Blu Caribe, Inc.	Km 0 8 Mmeyer Ward RR 698	Dorado	18.45988	-66.278
Corange International	2875 Ponce Byp	Ponce	18.0114	-66.6404

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PUERTO RICO CATASTROPHIC PLANNING ANNEX
FOR OFFICIAL USE ONLY (FOUO)

Pharmaceutical Preparations Manufacturing (150)

Business Name	Address	City	Latitude	Longitude
Janssen Ortho LLC	State Rd 933 Km 0 1	Gurabo	18.247885	-65.94835
Merle Watson	198 Ave Esmeralda	Guaynabo	18.371891	-66.102786
Smithkline Beecham (cork) Ltd	Km 91 Bo Crtnjas RR 172	Cidra	18.17664	-66.16248
Axiom Healthcare Pharmacy, Inc.	108 State Rd	Guaynabo	18.3642	-66.0194
Legacy Pharmaceuticals Puerto Rico, LLC	Hc 1 Box 16625	Humacao	18.15078	-65.82849
Novartis Corporation	Lots No 1 & 2 # 12	Cidra	18.177575	-66.16202
Globeprx.com Inc	654 Ave Munoz Rivera	San Juan	18.410443	-66.056688
Tapi Puerto Rico, Inc.	Hwy No 3 Km 76 3	Humacao	18.11468	-65.791482
Eli Lilly Industries, Inc.	65th Inf Km 12 6	Carolina	18.38288	-65.98058
Nessan Laboratories Inc	Iturregui Ave Cnr B St	Carolina	18.4135	-66.0079
Viiv Healthcare Puerto Rico LLC	90 Carr 165 Ste 800	Guaynabo	18.4151	-66.108
First Pharmacy 5	653 Ave Ponce De Leon	San Juan	18.457298	-66.085871
Seyer Pharmatec, Inc.	Carr Estal 172 Km 2 HM 5 St Carr Estat	Caguas	18.31565	-66.067835
Llorens Pharmaceutical Corp	Km 341 Indus FL 2 RR 1	Caguas	18.2149	-66.0625
Bristol-Myer Squibb Manufacturing Company	State Rd 3 Km 77 5	Humacao	18.1521	-65.8288
Creative Medical Corporation	Carr 172 Km 9 HM 4 Bo Ba St CA	Cidra	18.177575	-66.16202
Pfizer Pharmaceutical LLC	Km 1/9 Rd 689 # 19	Vega Baja	18.43595	-66.39178
Abbott Health Products, Inc	Carr 2 Km 58 2 St CA	Barceloneta	18.44936	-66.54586
Combe Products, Inc.	El Duque Und Park RR 971	Naguabo	18.220156	-65.822322
Ayerst-Wyeth Pharmaceuticals Incorporated	Km 142 HM 1 RR 3	Guayama	17.982744	-66.107367
Hepa Filter Certification Inc	988 Muoz Rivera Ave	San Juan	18.444515	-66.11186
Proctor & Gamble Health Products Inc	7000 St Km 2 HM 3 RR 735	Cayey	18.11208	-66.1618
U S Inspection Services De PR Inc	Bo Indus Park Bldg I	Bayamon	18.39792	-66.15615
Harbor Engineering Construction, Corp	Km 59 3 Bo Tiburon RR 2	Barceloneta	18.44936	-66.54586
Ciba-Geigy Caribe Inc	Km 34 HM 2 Zfiro St RR 1	Caguas	18.2072	-66.0518
Mylan Inc	El Jibaro Ave	Cidra	18.1793	-66.1611
Pfizer Pharmaceutical LLC	Road 2 Km 58 2 St Ro	Barceloneta	18.44936	-66.54586
Ceph International Corp	Ave 65 Infanteria Km13.0	Carolina	18.38288	-65.98058
Astrazeneca Pharmaceuticals LP	Road 188 West Km 0 2 St Ro	Canovanas	18.37108	-65.89873
Caribbean Dairy Institute, Inc	La Quinta Industrial	Mayaguez	18.19545	-67.15037
Arwils Manufacturing Corporation	San Isidro Industrial Par	Canovanas	18.37108	-65.89873
Lederle Pharmaceuticals	65th Inf Ave Km 9 7	Carolina	18.393	-65.9657
Dfb Pharmaceuticals, Inc/ A Division of Healthpoint International, Inc.	1418 Calle Wilson PH 1	San Juan	18.452269	-66.06688
Lifescan, Inc.	Km 0 8 Bo Pdrnales RR 308	Cabo Rojo	18.09462	-67.15352
Advanced Podiatry	201 Calle Gautier Benitez	Caguas	18.225035	-66.037988

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Pharmaceutical Preparations Manufacturing (150)

Business Name	Address	City	Latitude	Longitude
Abbott Pharmaceutical Corporation	22 Carr 144 Km 2/6	Jayuya	18.2171	-66.6085
Fenwal International Inc	Carr 122 Km 0 5 St CA	San German	18.08937	-67.05153
Patheon Puerto Rico Inc	34 Rd 1 1 Calle Zafiro	Caguas	18.27194	-66.04296
Johnson & Johnson	Km 0 HM 1 RR 933	Gurabo	18.269247	-65.948662
Siemens Healthcare Diagnostics Inc	Carr 876 Km 3 1 St CA	Trujillo Alto	18.35072	-66.00742
Lilly Del Caribe, Inc.	Ave 65 Infanteria	Carolina	18.38288	-65.98058
App Pharmaceuticals Manufacturing LLC	<Null>	Barceloneta	18.44936	-66.54586
Archimica (puerto Rico) Inc	Km 76 HM 9 Humacao RR 3	Humacao	18.1486	-65.8277
Watson Laboratories Caribe Inc	Carr 3 Km 76 HM 9 St CA	Humacao	18.15001	-65.81229
Wyeth-Ayerst Lederle Inc	Ave 65th Inf Km 9 HM 7	Carolina	18.38288	-65.98058
Catalent Pharma Solutions, Inc.	Cantano Indus Pk Rd 3	Humacao	18.1486	-65.8277
Hepa Filter Certification Inc	998 Ave Munoz Rivera	Rio Piedras	18.402284	-66.056413
Grafor Inc	Urb La Rambla 1360 CII	Ponce	18.0121	-66.601
Alcon (puerto Rico) Inc	7 Calle Tabonuco	Guaynabo	18.4049	-66.10608
Biovail Laboratories	Carr 698 Km 0 8 Bo Mmeyer St CA	Dorado	18.45988	-66.278
Agropharma Laboratories Inc	Carr 701 Km 0 4 Bo Playa St CA	Salinas	17.98262	-66.29482
Pharmacia & Upjohn, Inc	Ave Higuillar 14	Dorado	18.455855	-66.280395
Ex-Lax Inc	Mariana Ward Rd 909 Km 12	Humacao	18.15001	-65.81229
Bristol Carribean Inc	Zona Libre 7 Guanajibo St Zona Lib	Mayaguez	18.194425	-67.14484
Syntex, Puerto Rico Inc	Hc 1 Box 16625	Humacao	18.1486	-65.8277
AMO Puerto Rico Manufacturing Inc	Carr 402 Km 42 Zona Indus St CA	Anasco	18.29098	-67.14012
Bristol-Myers Squibb Puerto Rico, Inc	6 Calle Tabonuco	Guaynabo	18.40658	-66.10681
Coty US LLC	Urb Industrial Bay 8th St # 8	San Juan	18.38816	-66.04533
Catalent Pharma Solutions, Inc.	Road 686 Km 0 5 St Ro	Manati	18.4242	-66.4912
Patheon Puerto Rico, Inc.	Tail Rd 670 KI 2/7	Manati	18.42619	-66.48495
Nutraceutical Labs. of P.R. Inc	Calle Santa Agueda 1708	San Juan	18.388651	-66.049465
Ortho Biologics, LLC	RR 2	Manati	18.4283	-66.48884
Schering Plough Products Inc	Pridco Indus Park RR 183	Las Piedras	18.1823	-65.86339
Wyeth-Whitehall Pharmaceuticals, Inc	Road No 3 Km 142 1	Guayama	17.9829	-66.1174
Abbott Fermentation Products De Puerto Rico, Inc.	Hwy 2 Km 58 2 Cruce Dvlla	Barceloneta	18.44936	-66.54586
Abbott Laboratories Pacific Ltd.	Km 58 0 Cruce Dav RR 2	Barceloneta	18.44936	-66.54586
Aventis Pharmaceuticals PR Inc	604 Calle San Jose Ind Zo	Manati	18.42619	-66.48495
Ashford Pharmacologic Corp	29 Calle Washington # 105	San Juan	18.4556	-66.066
Pfizer Inc.	864 Ave San Patricio	San Juan	18.394573	-66.092101
Schering Plough Products Inc	Carretera Estatal 686	Manati	18.4267	-66.4876

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Pharmaceutical Preparations Manufacturing (150)

Business Name	Address	City	Latitude	Longitude
Ares-Serono	Hwy 686 Col 2/3 # 23	Manati	18.4263	-66.4904
Wyeth-Ayerst Lederle Inc	Ave 65th Inf Km 9 HM 7	Carolina	18.38288	-65.98058
Mc Neil Consumer Products PR Inc	Carr 183 Km 19 3 Montones St CA	Las Piedras	18.18304	-65.86418
Fenwal International Inc	Km 0 8 RR 357	Maricao	18.181605	-66.975975
Bristol-Myers Barceloneta, Inc.	Road 2 Km 56 HM 4 St Ro	Barceloneta	18.44936	-66.54586
Pfizer Consumer Healthcare	Street 3 Km 141 3	Guayama	17.97614	-66.11354
Inyx USA Ltd	Carr 604 San Jose Rd	Manati	18.4257	-66.4729
P I Ta Industries Inc	Km 143 0 RR 3	Guayama	18.02784	-66.79066
Derma Swisse 3000	404 Cile Tnte Csar Gnzlez	San Juan	18.444515	-66.11186
Sanofi-Aventis U.S. Inc	Edificio Dla Crz 100	Guaynabo	18.437419	-66.122005
Alcon (puerto Rico) Inc.	Barrio Junquito Carr	Humacao	18.15001	-65.81229
International Cyclotrons Inc	56 Jose Marti	San Juan	18.421638	-66.054923
Galderma Laboratories, LP	8 Calle 1 Ste 312	Guaynabo	18.4076	-66.1014
Biohealth Technologies, Inc.	E St Lots 4&5 Angora Ctr	Caguas	18.27194	-66.04296
Merck Sharp & Dohme Corp.	Urb Industrial Villa Blanca	Caguas	18.27194	-66.04296
Compli Caribe LLP	37 Calle Ambar	Las Piedras	18.1902	-65.8675
Roche Diagnostics Corporation	<Null>	Ponce	18.0045	-66.61193
Patheon Puerto Rico, Inc.	Km 34 HM 1 A St Vlla RR 1	Caguas	18.34912	-65.98864
Lilly Del Caribe, Inc.	State Road 53 Km 82 St State Ro	Guayama	17.9534	-66.167
Glaxosmithkline LLC	Km 9 1 Bo Crtnejas RR 172	Cidra	18.17664	-66.16248
Wyeth Pharmaceuticals Company, Inc.	Road 3 Km 142 1 St Ro	Guayama	17.97614	-66.11354
Watson Pharmaceuticals, Inc.	State Road 3 Km 76 St State Ro	Humacao	18.1493	-65.8255
Daiichi Sankyo De Puerto Rico, Inc.	258 Puerta De Tierra	San Juan	18.4628	-66.0973
Mylan Inc	Caguas West I RR 156	Caguas	18.444515	-66.11186
I P R Pharmaceutical, Inc	San Isidro Indtl Park Lot	Canovanas	18.37108	-65.89873
Warner Chilcott Company, LLC	RR 2	Manati	18.42619	-66.48495
Bio-Tech Logistics, Inc	Carr193 Km141 Commercial	Luquillo	18.36995	-65.72368
Pfizer Inc.	140 Carr Km	Barceloneta	18.4528	-66.53074
Biovail Laboratories Inc	Sabana Abajo Indus Park	Carolina	18.42672	-65.98084
Tapi Puerto Rico, Inc.	Km 143 0 RR 3	Guayama	17.97614	-66.11354
Bristol Meyer Squibb Holding Pharma Ltd	Km 2 HM 3 RR 686	Manati	18.42619	-66.48495
Ivax Pharmacuetical Caribe Inc	Cidra Ind Park C St 17 18	Cidra	18.17664	-66.16248
Knoll LLC	Road 144 Km 2 6	Jayuya	18.22064	-66.60497
Pharma Medic Distributors Corp.	<Null>	Coamo	18.048489	-66.363127
Pfizer Inc.	1 Carr 689	Vega Baja	18.447	-66.3821
Norega Laboratories, Inc	1086 Ave Munoz Rivera	San Juan	18.400325	-66.056296

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Pharmaceutical Preparations Manufacturing (150)					
Business Name	Address	City	Latitude	Longitude	
Parke Davis Pharmaceuticals Limited	1 Carr 689	Vega Baja	18.44703	-66.38212	
Pfizer Pharmaceutical LLC	Highway North 2 Km 60	Arecibo	18.4831	-66.615005	
Arcam Pharmaceutical Corporation	Carr 345 Km 1/5 Bo Jgitas St CA	Hormigueros	18.13808	-67.10807	
Pfizer Inc.	12 Calle Padre Sercus	Aguas Buenas	18.2568	-66.1025	
Bristol-Myers Squibb Company	State Rd 2 Km 56 4	Barceloneta	18.44936	-66.54586	
One Stop Prescription Farmacias	100 Km 7 1 Bo Mirador 71 Bo	Cabo Rojo	18.0104	-67.126405	
Cooperativa De Farmacias Puertorriqueas (coopharma)	Carr 115 Km 24 8 Bo Asoma St CA	Aguada	18.38125	-67.1867	
King Pharmaceuticals	544 Calle Aldebaran 638	San Juan	18.3985	-66.1064	
Corazon Farmacia Sagrado	Calle Pedro De Acosta	Sabana Grande	18.076317	-66.959222	
Agrocentro La Fe	CARR 114 HORMIGUERO CERRA	Hormigueros	18.13808	-67.10807	
Eli Lilly and Company	Rd No 3 Km 12 6 Puerto RI	Carolina	18.38821	-65.96424	

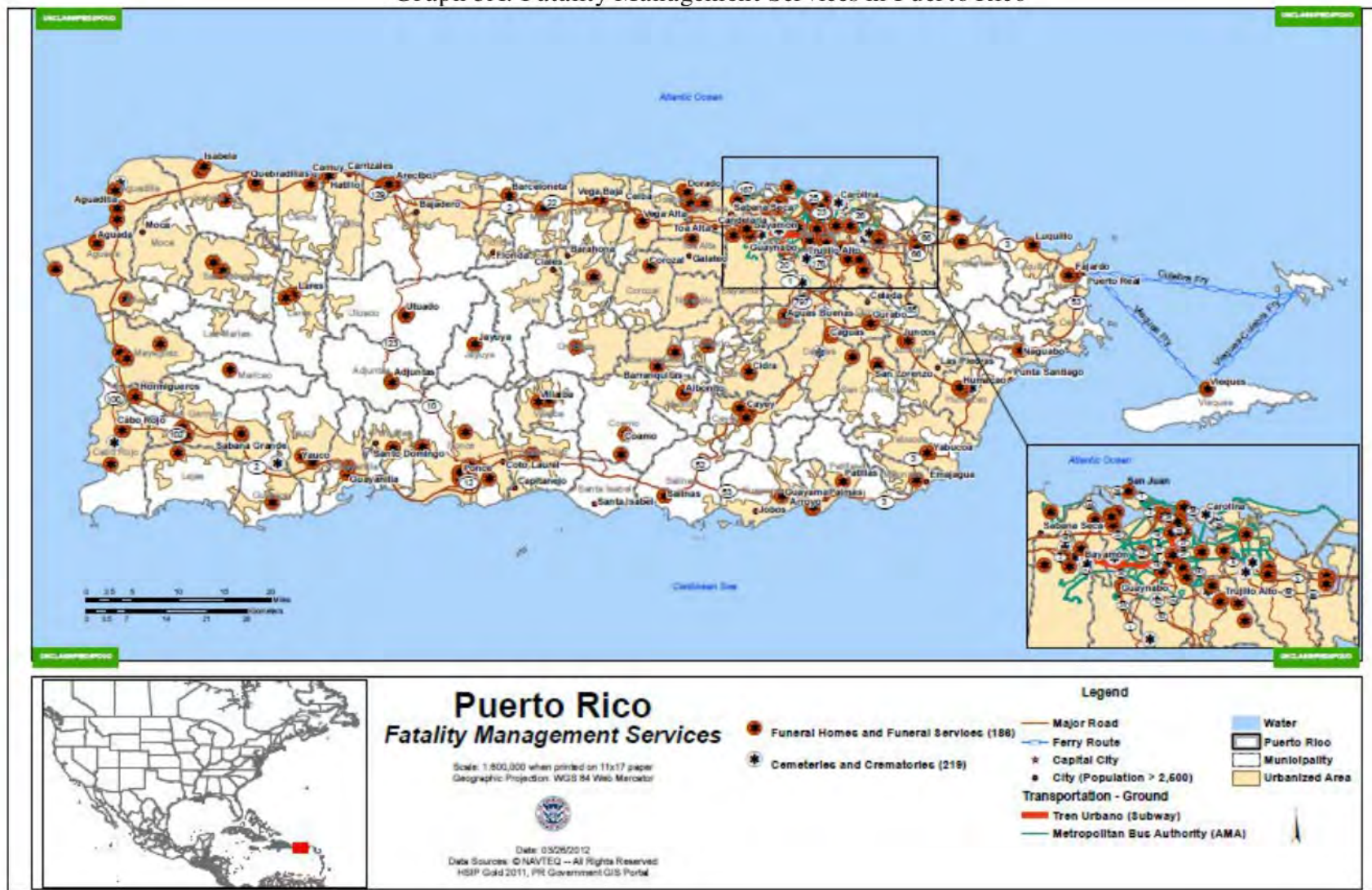
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5.0 FATALITY MANAGEMENT SERVICES

Graph 5A: Fatality Management Services in Puerto Rico



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PUERTO RICO CATASTROPHIC PLANNING ANNEX
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Table 5A: Funeral Homes and Funeral Services Puerto Rico Data

<i>Funeral Homes and Funeral Services (186)</i>					
<i>Business Name</i>	<i>Address</i>	<i>City</i>	<i>Latitude</i>	<i>Longitude</i>	
Funeraria San Sebastian Memorial Inc	RR 111	San Sebastian	18.349552	-67.002625	
Jose Bracero Ero	152 Andres Arus Rivera St	Gurabo	18.2536	-65.9717	
Jimenez Santiago, Wenceslao	1029 Ave Country Club	Camuy	18.4711	-66.8508	
H & R Corp	169 Calle San Felipe	Arecibo	18.47159	-66.717243	
Funeraria El Reposo Inc	150 Ave Munoz Rivera N	Cayey	18.1148	-66.1658	
Camposanto Puerto Rico Inc	Km 36 5 RR 119	San Sebastian	18.33276	-66.99148	
Highland Memory Gardens Inc	1756 Ave Fernandez Juncos 2f	San Juan	18.441049	-66.063429	
Vargas Santiago Edgardo R	43 Felipe De Jesus	Juana Diaz	18.04794	-66.50267	
Funeraria Javariz Inc	39 Calle Agustin Stahl	Aguadilla	18.4345	-67.15439	
Funeraria Y Capillas Rios Inc	8 Calle Severo Arana	San Sebastian	18.33528	-66.99064	
Funeraria Ripoll Memorial, Inc	2 Km 17 7 Bo Candelaria	Bayamon	18.4363	-66.1347	
Belmar Memorial Inc	118 Ave Barbosa	Catano	18.441567	-66.118314	
Funeraria San Carlos Inc	Rural Rte D 107 Km 4 3	Aguadilla	18.46097	-67.15713	
Vega Gregorio Diaz	48 Calle Baldorioty	Guaynabo	18.4326	-66.1159	
Villas Palmeras Funeral Inc	2199 Ave Eduardo Conde	San Juan	18.43954	-66.048181	
Camposanto Y Funeraria Los Sauces	110 Km 11 2 Moca Car	San Sebastian	18.33276	-66.99148	
Mohserrate Funeral Home		Salinas	17.98262	-66.29482	
Falu Flowers & Funeral Home Corp	3 Carr 865 Km2	TOA Baja	18.4448	-66.1799	
Funeraria Tonito Flores Inc.	31 Km 24 5 Car Naguabo	Juncos	18.22587	-65.9177	
Funeraria Santa Teresa	713 Calle Dr Loyola	Penuelas	18.0566	-66.721	
Empresas Carrasco Y Lopez Inc	107 Calle Cruz Ortz	Humacao	18.1517	-65.8314	
Carolina Memorial Funerarias	Carolina Shopp Ctr PA	Carolina	18.38806	-65.95739	
Cooperativa De Servicios Funebres De Puerto Rico	320 Calle Sevilla	San Juan	18.423541	-66.056268	
Miranda Funeraria	Calle Csta Esq Dr Brreras	Juncos	18.22638	-65.91286	
Pacheco Funeral Services Funerarias	26 Calle Mejias	Yauco	18.035532	-66.84748	
Funeraria Steider Inc	43 Calle A R Barcelo FL 2	Maunabo	18.00785	-65.89954	
Gurabo Memorial Inc	10 Calle Angel C Mrales E	Gurabo	18.2523	-65.9732	
Maldonado Lopez, Richard	173 Calle Pino	Gurabo	18.2546	-65.9676	
Daila Adorno, Luz M Inv	252 Ave Ponce De Leon	San Juan	18.465429	-66.100546	
Cidra Memorial Inc	21 Calle Munoz Rivera	Cidra	18.174259	-66.160805	
Los Rosales Memorial Park Inc	417 Antigua Via Del Tren	Aguada	18.38125	-67.1867	
Roberto Rodriguez	Road 20 Km 6 Hm 7	Guaynabo	18.370685	-66.106374	
Funeraria Montehiedra Inc	56 Calle San Salvador	Mayaguez	18.199208	-67.140449	
Funeraria Cayey Memorial Inc	Ave Jose De Dego 209 Oste	Cayey	18.11208	-66.1618	
Empresas Stewart Funerarias, Inc	2 Calle 4	Bayamon	18.38984	-66.1609	
Service Corporation International	65th Infanteria	Bayamon	18.4076	-66.14879	

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FOR OFFICIAL USE ONLY (FOUO)PUERTO RICO CATASTROPHIC PLANNING ANNEX
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Funeral Homes and Funeral Services (186)					
Business Name	Address	City	Latitude	Longitude	
Rodriguez Lopez, Jaime Felix	Road 867 Km 4 Hm 6,	Toa Baja	18.443835	-66.259613	
Maria Carmen Hernandez	Cond Santa Juanita Wa2	Bayamon	18.444515	-66.11186	
Antonio Cruz Velez	4 Calle Munoz Rivera	Adjuntas	18.1632	-66.7231	
Funeraria Pinero Memorial	4 Calle Munoz Rivera	Trujillo Alto	18.356315	-66.005077	
Funeraria Y Capilla La Fe	54 Calle Cristobal Colon	Yabucoa	18.04951	-65.87998	
San Rafael Ambulance	Bo San Jose Carr 4485	Quebradillas	18.46998	-66.9361	
Funeraria Y Capilla San Jorge Inc	1595 Calle America	San Juan	18.443188	-66.069225	
La Samaritana Funeral Home	125 W Oesta Guaya	San Lorenzo	18.200762	-65.999603	
Jose Angel Flores	3 Calle Un	Lajas	18.05033	-67.05891	
Funeraria Y Capilla Berrios	15 Calle Oneill	Corozal	18.34211	-66.31708	
Funeraria Rodriguez	Carr 149 Km 56 8 St CA	Villalba	18.13225	-66.47751	
Isabela Memorial	3324 Ave Juan Hrndez Ortiz	Isabela	18.4907	-67.023	
Funeraria Jalvin	32 Calle Manuel Hernandez	Anasco	18.29098	-67.14012	
Carlos Acevedo Collazo	10 Calle Munoz Rivera	Arroyo	17.962549	-66.062785	
Monte Cristo Inc	100 Hacia Ramey	Aguadilla	18.4157	-67.154	
Sucesion Pablo Lopez Gomez	Road 1 Km 89 Hm 8	Salinas	17.982835	-66.294629	
Funeraria Arecibo Memorial	A1 Calle 6	Arecibo	18.46775	-66.73806	
Funeraria Charles, LLC	6 Calle 13 De Marzo	Guanica	17.971397	-66.90998	
Funierria Toaville TOA Baja PR	Carr 867 Bson 10 Toaville St CA	TOA Baja	18.44214	-66.232015	
Velazco Escardille Corp Inc	11 Calle Robles	Rio Piedras	18.39996	-66.05223	
Empresas Stewart Y Compania, Inc	593 Ave Cuatro Calles	Ponce	18.0121	-66.6011	
Carrasco Delgado, Eusebio	213 Ave Lauro Pinero	Celba	18.35243	-65.98901	
Catano Memorial Inc	118 Ave Barbosa	Catano	18.441567	-66.118314	
Alderwoods (puerto Rico), Inc.	244 Calle Dr Veve	Bayamon	18.400028	-66.165649	
Conde Rodriguez, Rafael	Antonio G Mellado St	Vieques	18.1492	-65.443	
Salon Embalsamar Oyola	5 Calle Herminio Martinez	Vega Baja	18.446572	-66.394777	
Service Corporation International	Street 176 Km 6 2 Cpy Alt	San Juan	18.38816	-66.04533	
Esquilin Funeral Home Inc	159 Munoz Rivera St	Fajardo	18.327067	-65.651801	
Lopez Funeral Home		Lares	18.29772	-66.87788	
Service Corporation International	Carr Km 3/5 Ave Noel 35th	Isabela	18.49986	-67.01796	
Stewart Enterprises, Inc.	Ave Luis Munoz Marin	Caguas	18.353327	-66.00715	
Aguas Buenas Memoria	Calle Padre Quinones 2	Aguas Buenas	18.25723	-66.105872	
Loiza Memorial	3 Parcella Suarez Cll	Loiza	18.417375	-65.841105	
Funeraria Martell	20 Calle Jlio Prez Irzrry	Hormigueros	18.140879	-67.125684	
Funeraria Sagrado Inc	Carr 417 Km 0 7 Bo Asmnt St CA	Aguada	18.38125	-67.1867	
Arocho Hernandez, Victor	9 Calle San Joaquin	Adjuntas	18.160873	-66.722908	
Perez Narvaez, Jose E	2259 Calle Loiza	San Juan	18.4493	-66.0441	

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Funeral Homes and Funeral Services (186)				
Business Name	Address	City	Latitude	Longitude
Cruz Collazo, Raul	46 Calle Garzot R	Naguabo	18.2116	-65.7361
Luquillo Funeral Home	Calle Fernandez Garcia 205	Luquillo	18.3765	-65.7161
Funeraria Alvarez	134 Calle Villa	Ponce	18.010601	-66.616763
Garcia Emilia Rivera	13 Calle Munoz Rivera N	Carolina	18.381356	-65.956651
Perez Juan Gonzalez	711 Ave Miramar	Arecibo	18.471929	-66.73258
Mendez Memorial	804 Calle Munoz Rivera	Penuelas	18.0566	-66.721
Oliver Russo, Juan Luis	2863 Ave Las Americas	Ponce	18.082429	-66.607198
Funeraria La Paz	12 Ave Esteves	Utua	18.265	-66.7009
Funeraria Y Capillas Del Carmen Memorial	24 Calle Barcelo	Villalba	18.129499	-66.492912
Galiano Rivera, Juan	34 Calle Dr Felix Tio	Sabana Grande	18.078	-66.9587
Alderwoods (puerto Rico), Inc.	Carr 181 201 Exp Trjl Alt RR 1 St CA	Trujillo Alto	18.370315	-66.015348
Jose Penchi Porrata	Calle Luna Esq Colon	San German	18.08937	-67.05153
Fernandez Funeral Service Inc	113 Calle Mendez Vigo W	Mayaguez	18.202964	-67.143966
Funeraria Aviles	Kilometer 0 5 Castos Pere	San German	18.0786	-67.0455
Amador Funeraria Y Capillas	191 Carr 2	Hatillo	18.484	-66.822
Funeraria Capilla De Jesus Memorial	3 Calle Figuera	Jayuya	18.2195	-66.592
Gurabo Funeral Home	Calle Andres 152	Gurabo	18.2536	-65.9717
Gonzalez Mercado Inc		Canovanas	18.378	-65.8956
Empresas Stewart Funerarias, Inc	607 Calle San Jose	San Juan	18.441859	-66.06312
Robert Dox	Frebte Al Paquito RR 132	Ponce	18.060022	-66.675141
Funeraria San Antonio	26 Lulio E Saavedra Ave	Isabela	18.44511	-66.984427
Alderwoods (puerto Rico), Inc.	Km 36 5 RR 119	San Sebastian	18.33276	-66.99148
Stewart Enterprises, Inc.	Calle C Gonzalez Urb	San Juan	18.334929	-65.981614
Jorge Luis Santiago	109 Calle Acosta	Caguas	18.233855	-66.033426
Funeraria Del Noreste	Mora Ward	Isabela	18.49986	-67.01796
Portela Corp	65th Inf Km 5 Hm 3	San Juan	18.378	-66.0411
Empresas Stewart-Funeraria Gonzalez	1253 Calle Clarisas	Ponce	18.01917	-66.61612
Benjamin Babilonia Rosario	98 Calle La Paz	Aguada	18.378903	-67.185817
Funeraria Maricao Memorial	1 Calle Baldorioty	Maricao	18.1795	-66.9772
Yabucoa Memorial Inc	2 Calle Catalina Morales	Yabucoa	18.049858	-65.88247
Service Corporation International	Carr PR 14 Km 7 3 St Carr	Ponce	18.0055	-66.5975
Levittown Memorial Inc	Hv 1 7 Th SEC Levittown	TOA Baja	18.43771	-66.2528
Torres De Jesus, Jose R	Doctor Veve 44 N	Coamo	18.048489	-66.363127
Lajara, Luis Felipe Cortes		Utua	18.26848	-66.69789
Cintron Jose M Sr/Cintron, Jose M Jr	Calle Cmnrto Cvil Ste 20	Ponce	18.0121	-66.601
Garcia Tirado, Eduardo	5 Calle 1	Vega Baja	18.450802	-66.405627
Valentine's Funeral Chapel	225 Calle Mendez Vigo	Dorado	18.4599	-66.2641

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Funeral Homes and Funeral Services (186)					
Business Name	Address	City	Latitude	Longitude	
A S Badillo, Inc.	1h1 Lomas Verdes Ave 1 H	Bayamon	18.3908	-66.1862	
Luz Funeraria Eterna	1 Urb Ortega	Barceloneta	18.4531	-66.5399	
Santiago Israel Gutierrez	443 Ave Jose De Diego W	Cayey	18.118929	-66.176248	
Funeraria Mayaguez Memorial	189 Mendez Vigo W	Mayaguez	18.20676	-67.15056	
Funeraria Aibonito Memorial	253 Calle San Jose E	Aibonito	18.1418	-66.2644	
Funeraria Conde Esquilin	28 Calle Benitez Guzman	Vieques	18.150088	-65.442258	
Marin Funeral Home Funerarias	643 Calle Julio Andino	Rio Piedras	18.404672	-66.025704	
Funeraria Ramos	56 Calle Lamela	Quebradillas	18.474	-66.9375	
Funeraria Carrasco	252 Call Luis Munz Rvra N	Fajardo	18.32812	-65.66045	
Salcedo Funeral Home	Ave Los Prtns Cir 111k	Lares	18.29772	-66.87788	
Funeraria Y Capillas Carrion Memorial	102 Calle Munoz Rivera	Canovanas	18.37962	-65.89912	
Empresas Stewart-Rodriguez Osorio Inc	52 Calle Antnio Landrau N	Carolina	18.381335	-65.958774	
Rio Grande Memorial	62 Calle San Antonio	Rio Grande	18.3814	-65.8293	
Shalom Funeria Memorial Inc	53 Los Caobos Indus Park	Mercedita	18.0089	-66.5697	
Fermin Rivera Rivera	Carrion Mduro Dgeatu Esq	Juana Diaz	18.04794	-66.50267	
Fernandez Martell, Gerardo	366 South St	Mayaguez	18.1967	-67.1388	
Empresas Stewart Y Compania, Inc	593 Calle 4	Ponce	18.030145	-66.600293	
La Monserrate Mortuary Inc	Carr 3344 Km 0 7 St CA	Hormigueros	18.13719	-67.12559	
Funeraria Correa Hijos	3 Calle Polvorin	Manati	18.4315	-66.487	
Funeraria Marcos Arocho	2166 Ave Borinquen	San Juan	18.435731	-66.05065	
Erick Memorial	15 Calle Buena Vis	Morovis	18.3257	-66.4066	
Lopez Collazo Juan M Ambulancia	77 Calle P Albizu Campos	Lares	18.2929	-66.8897	
Funeraria De Pedro	7 Calle Duque	Guayama	17.9818	-66.1109	
Memorial Services of P R Inc	1715 Ave Ponce De Leon	San Juan	18.442378	-66.06347	
Francisco Rivera	95 Guillermo Esteves St	Jayuya	18.2195	-66.592	
Diaz Cruz, Manuel A	72 Calle Munoz Rivera	TOA Alta	18.386396	-66.251619	
Funeraria San Andres Inc	Km 8 6 RR 152	Barranquitas	18.208705	-66.278486	
Funeraria Santa Ana	2 Carr 100 Km6	Cabo Rojo	18.031563	-67.164747	
Perez Funeral Service	Calle Janda 488 San Jose St Calle Jan	Rio Piedras	18.40171	-66.05563	
Funeraria Ripoll Memorial Inc	Km 17 7 Candelar RR 2	TOA Baja	18.43771	-66.2528	
Rivera, Raul Hernandez	Km 122 7 Bo Corrales RR 2	Aguadilla	18.46097	-67.15713	
Ehret Inc	Carr 3 Km 18 HM 5 St CA	Canovanas	18.37108	-65.89873	
Funeraria Y Floristeria Rios	10 Calle Carreras W	Humacao	18.1484	-65.827	
Funeraria San Juan Memorial Corp	Carr 177 1493sant RR 1 St CA	San Juan	18.40421	-66.08576	
Funeraria Delcarmen	33 Calle Wilson	Catano	18.440775	-66.118129	
Canales Funeral Home Inc	23 Calle Jacinto Seijo	Vega Alta	18.4135	-66.3296	
Good Samaritan Foundation Inc	4 Calle Brema	San Juan	18.3843	-66.0671	

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Funeral Homes and Funeral Services (186)				
Business Name	Address	City	Latitude	Longitude
Funeraria Santa Rosa	1 Bo Pblo Carr 412 Km 0 1	Rincon	18.33903	-67.25149
Funeraria Avellanet	33 Calle San Isidro	Sabana Grande	18.079694	-66.95948
Funeral Orocovis Memorial	2 Calle 4 De Julio	Orocovis	18.21503	-66.43393
Fun Las Muosas	Carr 1	Cayey	18.105518	-66.166126
Victor De Pedro	20 Calle Jesus T Pinero	Patillas	18.00615	-66.01459
Empresas Stewart-Rodriguez Osorio Inc	1712 Ave Ponce De Leon	San Juan	18.442327	-66.063595
Funeraria San Luis	507 Ave Miramar	Arecibo	18.471985	-66.727787
Memorial Enterprises Group	Carr Num 14 Km 49 3 St Carr N	Aibonito	18.144375	-66.262995
Hector Lopez Hernandez	26 Calle Rafael Arrieta	TOA Baja	18.4422	-66.254
Funeraria Central	25 Calle San Antonio	Rio Grande	18.38018	-65.82869
Funeraria Valle	63 Calle Munoz Rivera	Cabo Rojo	18.086302	-67.145387
Luciano Estrada Ferreira	146 Ave Univ Inter	San German	18.0786	-67.0455
Simplicity Plan De P R	368 Calle Dr Ramon E Beta	Mayaguez	18.22154	-67.086615
Gonzales, Artuz Funeraria	Paseo De La Atenas	Manati	18.43252	-66.48489
Funeraria Capilla Santiago	111 Calle Georgetti	Comerio	18.21782	-66.22807
Rosa Munoz, David	Bb32 Calle Castilla	Carolina	18.4218	-65.9807
Molina Torres, Jose A	5 Calle Munoz Rivera	Vega Alta	18.4122	-66.3295
Orria Burgos, John	62 Calle Salvador Brau	Cabo Rojo	18.086	-67.146886
Pepino Funeral Home	49 Calle Un	San Sebastian	18.3357	-66.988
Funeraria Baez Memorial Inc	145 Calle Munoz Rivera	Guayanilla	18.0184	-66.7927
Funeraria Capillas Cordero	30 Calle Georgetti	Barceloneta	18.45384	-66.53895
Funeraria Ebenecer	82 Calle Morse	Arroyo	17.9643	-66.0612
Torres Dueno, Carmen	10 Calle Industria	Dorado	18.457753	-66.258903
Barranquitas Memorial Funeral Home, Inc	1 Calle La Luciana	Barranquitas	18.184553	-66.306105
Funeraria Rivera	Km 13 HM 7 FL 3 RR 172	Cidra	18.17664	-66.16248
San Lorenzo Memorial, Inc.	155 Calle Tous Soto S	San Lorenzo	18.1884	-65.9605
Funeraria Angeles	160 Cile Luis Mnoz Rivera	Guayanilla	18.02784	-66.79066
Empresas Stewart Y Compania, Inc	1715 Ave Ponce De Leon	San Juan	18.442378	-66.06348
Diaz Aquino, Daniel	15 Florencio Santiago St	Coamo	18.079151	-66.355749
Funeraria San Cristobal	HM 489 Bo Sumidero RR 156	Aguas Buenas	18.26577	-66.10492
Marin Funeral Home	Calle Francia 500hato	San Juan	18.42609	-66.04246
San Miguel Funeral Home	58 Calle Georgetti	Naranjito	18.2883	-66.2526
Ortiz & Rodriguez Corp.	Calle Pasarell 20sur St Calle Pasare	Yauco	18.04581	-66.86354
Almodovar Montilla Funeral Home Inc	General Du Valle Las	San Juan	18.40657	-66.00339
Utuado Memorial Inc	55 Calle Dr Cueto	Utuado	18.265776	-66.701871
Jose Dewindt Sicar	56 Calle Acosta	Caguas	18.236994	-66.031773
Funeraria Barcelo Incorporado	157 Calle Tomas Cruz	Humacao	18.1518	-65.8317

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Funeral Homes and Funeral Services (186)				
Business Name	Address	City	Latitude	Longitude
Jibe Services Corporation		San Sebastian	18.349552	-67.002625
Ehret Inc.	4 Calle Brema	San Juan	18.3843	-66.0671

Table 5B: Cemeteries and Crematories Puerto Rico Data

<i>Cemeteries and Crematories (219)</i>				
<i>Business Name</i>	<i>Address</i>	<i>City</i>	<i>Latitude</i>	<i>Longitude</i>
Funeraria San Sebastian Memorial Inc	RR 111	San Sebastian	18.349552	-67.002625
Jose Bracero Ero	152 Andres Arus Rivera St	Gurabo	18.2536	-65.9717
Jimenez Santiago, Wenceslao	1029 Ave Country Club	Camuy	18.4711	-66.8508
H & R Corp	169 Calle San Felipe	Arecibo	18.47159	-66.717243
Funeraria El Reposo Inc	150 Ave Munoz Rivera N	Cayey	18.1148	-66.1658
Camposanto Puerto Rico Inc	Km 36 5 RR 119	San Sebastian	18.33276	-66.99148
Service Corporation International	Carr Km 3/5 Ave Noel 35th	Isabela	18.49986	-67.01796
Funeraria Carrasco	252 Call Luis Munz Rvra N	Fajardo	18.32812	-65.66045
Lopez Funeral Home		Lares	18.29772	-66.87788
Funeraria Sagrado Inc	Carr 417 Km 0 7 Bo Asmnte St CA	Aguada	18.38125	-67.1867
Marin Funeral Home Funerarias	643 Calle Julio Andino	Rio Piedras	18.404672	-66.025704
Los Robles Memorial Park Inc	Carr 100 Km 6 4 Interior St CA	Cabo Rojo	18.06618	-67.158745
Funeraria Javariz Inc	39 Calle Agustin Stahl	Aguadilla	18.4345	-67.15439
Los Angeles Memorial Park	8 Calle Buen Consejo	Catano	18.438	-66.1299
Stewart Enterprises, Inc.	Carr 840 Km 2 0 St CA	Bayamon	18.39217	-66.14246
A S Badillo, Inc.	1h1 Lomas Verdes Ave 1 H	Bayamon	18.3908	-66.1862
Funeraria Y Capillas Rios Inc	8 Calle Severo Arana	San Sebastian	18.33528	-66.99064
Belmar Memorial Inc	118 Ave Barbosa	Catano	18.441567	-66.118314
Funeraria Ripoll Memorial, Inc	2 Km 17 7 Bo Candelaria	Bayamon	18.4363	-66.1347
Vega Gregorio Diaz	48 Calle Baldorioty	Guaynabo	18.4326	-66.1159
Funeraria San Carlos Inc	Rural Rte D 107 Km 4 3	Aguadilla	18.46097	-67.15713
Villas Palmeras Funeral Inc	2199 Ave Eduardo Conde	San Juan	18.43954	-66.048181
Camposanto Y Funeraria Los Sauces	110 Km 11 2 Moca Car	San Sebastian	18.33276	-66.99148
Mohserrate Funeral Home		Salinas	17.98262	-66.29482
Falu Flowers & Funeral Home Corp	3 Carr 865 Km2	TOA Baja	18.4448	-66.1799
Funeraria Tonito Flores Inc.	31 Km 24 5 Car Naguabo	Juncos	18.22587	-65.9177
Funeraria Santa Teresa	713 Calle Dr Loyola	Penuelas	18.0566	-66.721
Universal Cementery Management Company Inc	4225 Ave Isla Verde	Carolina	18.43621	-66.01404
Carolina Memorial Funerarias	Carolina Shopp Ctr PA	Carolina	18.38806	-65.95739
Empresas Carrasco Y Lopez Inc	107 Calle Cruz Ortiz	Humacao	18.1517	-65.8314
Cooperativa De Servicios Funebres De Puerto Rico	320 Calle Sevilla	San Juan	18.423541	-66.056268
Miranda Funeraria	Calle Csta Esq Dr Brreras	Juncos	18.22638	-65.91286
Gurabo Memorial Inc	10 Calle Angel C Mrales E	Gurabo	18.2523	-65.9732
Pacheco Funeral Services Funerarias	26 Calle Mejias	Yauco	18.035532	-66.84748
Funeraria Steider Inc	43 Calle A R Barcelo FL 2	Maunabo	18.00785	-65.89954
Maldonado Lopez, Richard	173 Calle Pino	Gurabo	18.2546	-65.9676
El Senorial Memorial Park Inc	Road 176 Km 2 HM 8 St Ro	San Juan	18.3914	-66.0607

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FOR OFFICIAL USE ONLY (FOUO)PUERTO RICO CATASTROPHIC PLANNING ANNEX
FOR OFFICIAL USE ONLY (FOUO)

Cemeteries and Crematories (219)				
Business Name	Address	City	Latitude	Longitude
Los Rosales Memorial Park Inc	417 Antigua Via Del Tren	Aguada	18.38125	-67.1867
Cidra Memorial Inc	21 Calle Munoz Rivera	Cidra	18.174259	-66.160805
Roberto Rodriguez	Road 20 Km 6 Hm 7	Guaynabo	18.370685	-66.106374
Funeraria Montehiedra Inc	56 Calle San Salvador	Mayaguez	18.199208	-67.140449
Daila Adorno, Luz M Inv	252 Ave Ponce De Leon	San Juan	18.465429	-66.100546
Funeraria Cayey Memorial Inc	Ave Jose De Dego 209 Oste	Cayey	18.11208	-66.1618
Hr Corporation	Carr 129 Km 3/5 St CA	Arecibo	18.46225	-66.72906
Rodriguez Lopez, Jaime Felix	Road 867 Km 4 Hm 6,	Toa Baja	18.443835	-66.259613
Service Corporation International	65th Infanteria	Bayamon	18.4076	-66.14879
Empresas Stewart Funerarias, Inc	2 Calle 4	Bayamon	18.38984	-66.1609
Maria Carmen Hernandez	Cond Santa Juanita Wa2	Bayamon	18.444515	-66.11186
Funeraria Pinero Memorial	4 Calle Munoz Rivera	Trujillo Alto	18.356315	-66.005077
Antonio Cruz Velez	4 Calle Munoz Rivera	Adjuntas	18.1632	-66.7231
Stewart Enterprises, Inc.	Carr 167 Km220	Bayamon	18.4077	-66.1654
Funeraria Y Capilla La Fe	54 Calle Cristobal Colon	Yabucoa	18.04951	-65.87998
San Rafael Ambulance	Bo San Jose Carr 4485	Quebradillas	18.46998	-66.9361
Funeraria Y Capilla San Jorge Inc	1595 Calle America	San Juan	18.443188	-66.069225
La Samaritana Funeral Home	125 W Oesta Guaya	San Lorenzo	18.200762	-65.999603
Stewart Enterprises, Inc.	2 Carr 1 Km	Caguas	18.237	-66.0349
Jose Angel Flores	3 Calle Un	Lajas	18.05033	-67.05891
Funeraria Y Capilla Berrios	15 Calle Oneill	Corozal	18.34211	-66.31708
Mayaguez Cemetery Inc	Carr 348 Km 2 0 St CA	Mayaguez	18.19545	-67.15037
Funeraria Rodriguez	Carr 149 Km 56 8 St CA	Villalba	18.13225	-66.47751
Carlos Acevedo Collazo	10 Calle Munoz Rivera	Arroyo	17.962549	-66.062785
Funeraria Jalvin	32 Calle Manuel Hernandez	Anasco	18.29098	-67.14012
Isabela Memorial	3324 Ave Juan Hrndeiz Ortiz	Isabela	18.4907	-67.023
Monte Cristo Inc	100 Hacia Ramey	Aguadilla	18.4157	-67.154
Funierria Toaville TOA Baja PR	Carr 867 Bson 10 Toaville St CA	TOA Baja	18.44214	-66.232015
Funeraria Charles, LLC	6 Calle 13 De Marzo	Guanica	17.971397	-66.90998
Sucesion Pablo Lopez Gomez	Road 1 Km 89 Hm 8	Salinas	17.982835	-66.294629
Funeraria Arecibo Memorial	A1 Calle 6	Arecibo	18.46775	-66.73806
Velazco Escardille Corp Inc	11 Calle Robles	Rio Piedras	18.39996	-66.05223
Empresas Stewart Y Compania, Inc	593 Ave Cuatro Calles	Ponce	18.0121	-66.6011
Alderwoods (puerto Rico), Inc.	244 Calle Dr Veve	Bayamon	18.400028	-66.165649
Salon Embalsamar Oyola	5 Calle Herminio Martinez	Vega Baja	18.446572	-66.394777
Conde Rodriguez, Rafael	Antonio G Mellado St	Vieques	18.1492	-65.443
Carrasco Delgado, Eusebio	213 Ave Lauro Pinero	Ceiba	18.35243	-65.98901
Catano Memorial Inc	118 Ave Barbosa	Catano	18.441567	-66.118314
Arocho Hernandez, Victor	9 Calle San Joaquin	Adjuntas	18.160873	-66.722908

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Cemeteries and Crematories (219)					
Business Name	Address	City	Latitude	Longitude	
Perez Narvaez, Jose E	2259 Calle Loiza	San Juan	18.4493	-66.0441	
Funeraria Mayaguez Memorial	189 Mendez Vigo W	Mayaguez	18.20676	-67.15056	
Funeraria Conde Esquilin	28 Calle Benitez Guzman	Vieques	18.150088	-65.442258	
Funeraria Alvarez	134 Calle Villa	Ponce	18.010601	-66.616763	
Vargas Santiago Edgardo R	43 Felipe De Jesus	Juana Diaz	18.04794	-66.50267	
Good Samaritan Foundation Inc	4 Calle Brema	San Juan	18.3843	-66.0671	
Luquillo Funeral Home	Calle Fernandez Garcia 205	Luquillo	18.3765	-65.7161	
Celestium Inc		Carolina	18.38288	-65.98058	
Borinquen Memorial Parks Inc	Km 0 HM 2 RR 796	Caguas	18.315496	-66.078701	
Garcia Emilia Rivera	13 Calle Munoz Rivera N	Carolina	18.381356	-65.956651	
Perez Juan Gonzalez	711 Ave Miramar	Arecibo	18.471929	-66.73258	
Mendez Memorial	804 Calle Munoz Rivera	Penuelas	18.0566	-66.721	
Stewart Enterprises, Inc.	Carr 858 Km 4 Bo Cacao St CA	Carolina	18.39306	-65.97369	
Oliver Russo, Juan Luis	2863 Ave Las Americas	Ponce	18.082429	-66.607198	
Service Corporation International	Carr 685 Km 20 St CA	Manati	18.42619	-66.48495	
Funeraria La Paz	12 Ave Esteves	Utua	18.265	-66.7009	
H & R Corp	Carretera 129 Km 3 1/3 St Carrete	Arecibo	18.46225	-66.72906	
Funeraria Y Capillas Del Carmen Memorial	24 Calle Barcelo	Villalba	18.129499	-66.492912	
Galiano Rivera, Juan	34 Calle Dr Felix Tio	Sabana Grande	18.078	-66.9587	
Capri SE	54 Progreso St	San Juan	18.443564	-66.073463	
Funeraria Aviles	Kilometer 0 5 Castos Pere	San German	18.0786	-67.0455	
Amador Funeraria Y Capillas	191 Carr 2	Hatillo	18.484	-66.822	
Funeraria Capilla De Jesus Memorial	3 Calle Figuera	Jayuya	18.2195	-66.592	
Fernandez Funeral Service Inc	113 Calle Mendez Vigo W	Mayaguez	18.202964	-67.143966	
Jose Penchi Porrata	Calle Luna Esq Colon	San German	18.08937	-67.05153	
Alderwoods (puerto Rico), Inc.	Carr 181 201 Exp Tril Alt RR 1 St CA	Trujillo Alto	18.370315	-66.015348	
Halais Group Inc	Carr 189 K 2 2	Caguas	18.27194	-66.04296	
Gurabo Funeral Home	Calle Andres 152	Gurabo	18.2536	-65.9717	
Gonzalez Mercado Inc		Canovanas	18.378	-65.8956	
Empresas Stewart Funerarias, Inc	607 Calle San Jose	San Juan	18.441859	-66.06312	
Funeraria San Antonio	26 Lulio E Saavedra Ave	Isabela	18.44511	-66.984427	
Robert Dox	Frete Al Paquito RR 132	Ponce	18.060022	-66.675141	
Alderwoods (puerto Rico), Inc.	Km 36 5 RR 119	San Sebastian	18.33276	-66.99148	
Jorge Luis Santiago	109 Calle Acosta	Caguas	18.233855	-66.033426	
Stewart Enterprises, Inc.	Calle C Gonzalez Urb	San Juan	18.334929	-65.981614	
Stewart Enterprises, Inc.	Ave Cementerio Nacional	Bayamon	18.39792	-66.15615	
Stewart Enterprises, Inc.	Calle Dr Ramon E Betances	Mayaguez	18.19545	-67.15037	
Funeraria Del Noreste	Mora Ward	Isabela	18.49986	-67.01796	
Empresas Stewart-Funeraria Gonzalez	1253 Calle Clarisas	Ponce	18.01917	-66.61612	

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Cemeteries and Crematories (219)				
Business Name	Address	City	Latitude	Longitude
Benjamin Babilonia Rosario	98 Calle La Paz	Aguada	18.378903	-67.185817
Portela Corp	65th Inf Km 5 Hm 3	San Juan	18.378	-66.0411
Funeraria Maricao Memorial	1 Calle Baldorioty	Maricao	18.1795	-66.9772
Puerto Rico Pet Memorial Garden Inc	Carr 1 Km 19 HM 6 Tortugo	TOA Alta	18.38359	-66.25378
Torres De Jesus, Jose R	Doctor Veve 44 N	Coamo	18.048489	-66.363127
Stewart Enterprises, Inc.	Carr 909 Km 1 1 St CA	Humacao	18.15001	-65.81229
Getsemani Corp	200 Calle Marginal	Sabana Grande	18.03369	-66.90234
Lajara, Luis Felipe Cortes		Utua	18.26848	-66.69789
Service Corporation International	Carr PR 14 Km 7 3 St Carr	Ponce	18.0055	-66.5975
Service Corporation International	244 Calle Dr Veve	Bayamon	18.400028	-66.165649
Levittown Memorial Inc	Hv 1 7 Th SEC Levittown	TOA Baja	18.43771	-66.2528
Yabucoa Memorial Inc	2 Calle Catalina Morales	Yabucoa	18.049858	-65.88247
Cintron Jose M Sr/Cintron, Jose M Jr	Calle Cmtrio Cvil Ste 20	Ponce	18.0121	-66.601
Garcia Tirado, Eduardo	5 Calle 1	Vega Baja	18.450802	-66.405627
Valentine's Funeral Chapel	225 Calle Mendez Vigo	Dorado	18.4599	-66.2641
Luz Funeraria Eterna	1 Urb Ortega	Barceloneta	18.4531	-66.5399
Salcedo Funeral Home	Ave Los Prtnts Cir 111k	Lares	18.29772	-66.87788
Loiza Memorial	3 Parcella Suarez Cll	Loiza	18.417375	-65.841105
Aguas Buenas Memoria	Calle Padre Quinones 2	Aguas Buenas	18.25723	-66.105872
Santiago Israel Gutierrez	443 Ave Jose De Diego W	Cayey	18.118929	-66.176248
Cruz Collazo, Raul	46 Calle Garzot R	Naguabo	18.2116	-65.7361
Rio Grande Memorial	62 Calle San Antonio	Rio Grande	18.3814	-65.8293
Fermin Rivera Rivera	Carrion Mduro Dgeatu Esq	Juana Diaz	18.04794	-66.50267
Shalom Funeria Memorial Inc	53 Los Caobos Indus Park	Mercedita	18.0089	-66.5697
Service Corporation International	Carr 110 Km 06 N St CA	Aguadilla	18.4729	-67.1495
P R Cem Health Services	Road 172 Km 1/2	Caguas	18.2072	-66.0518
Fernandez Martell, Gerardo	366 South St	Mayaguez	18.1967	-67.1388
Empresas Stewart Y Compania, Inc	593 Calle 4	Ponce	18.030145	-66.600293
La Monserrate Mortuary Inc	Carr 3344 Km 0 7 St CA	Hormigueros	18.13719	-67.12559
Funeraria Correa Hijos	3 Calle Polvorin	Manati	18.4315	-66.487
Funeraria Marcos Arocho	2166 Ave Borinquen	San Juan	18.435731	-66.05065
Caguas Cementery Corporation	Calle 3	Caguas	18.354681	-66.071258
Empresas Stewart-Cementerios, Inc	Ave Ponce De Leon 1712	San Juan	18.3642	-66.0194
Erick Memorial	15 Calle Buena Vis	Morovis	18.3257	-66.4066
Lopez Collazo Juan M Ambulancia	77 Calle P Albizu Campos	Lares	18.2929	-66.8897
Jardin Del Eden Inc	Carr 1 Km 48 6 SEC Las St CA	Cidra	18.17664	-66.16248
Funeraria Ripoll Memorial Inc	Km 17 7 Candelar RR 2	TOA Baja	18.43771	-66.2528
Funeraria Santa Ana	2 Carr 100 Km6	Cabo Rojo	18.031563	-67.164747
Perez Funeral Service	Calle Janda 488 San Jose St Calle Jan	Rio Piedras	18.40171	-66.05563

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Cemeteries and Crematories (219)				
Business Name	Address	City	Latitude	Longitude
Caparra Memorial Park & Funeral Services Inc	100 Calle Bn Smrtn F105 APT F	Guaynabo	18.399	-66.11485
Díaz Cruz, Manuel A	72 Calle Munoz Rivera	TOA Alta	18.386396	-66.251619
Funeraria San Andres Inc	Km 8 6 RR 152	Barranquitas	18.208705	-66.278486
Funeraria De Pedro	7 Calle Duque	Guayama	17.9818	-66.1109
Francisco Rivera	95 Guillermo Esteves St	Jayuya	18.2195	-66.592
Memorial Services of P R Inc	1715 Ave Ponce De Leon	San Juan	18.442378	-66.06347
Rivera, Raul Hernandez	Km 122 7 Bo Corrales RR 2	Aguadilla	18.46097	-67.15713
Ehret Inc	Carr 3 Km 18 HM 5 St CA	Canovanas	18.37108	-65.89873
Funeraria Y Floristeria Rios	10 Calle Carreras W	Humacao	18.1484	-65.827
Funeraria Delcarmen	33 Calle Wilson	Catano	18.440775	-66.118129
Funeraria San Juan Memorial Corp	Carr 177 1493sant RR 1 St CA	San Juan	18.40421	-66.08576
Funeraria Avellanet	33 Calle San Isidro	Sabana Grande	18.079694	-66.95948
Funeraria Ramos	56 Calle Lamela	Quebradillas	18.474	-66.9375
Empresas Stewart-Rodriguez Osorio Inc	52 Calle Antnio Landrau N	Carolina	18.381335	-65.958774
Funeraria Martell	20 Calle Jlio Prez Irzry	Hormigueros	18.140879	-67.125684
Stewart Enterprises, Inc.	Ave Luis Munoz Marin	Caguas	18.353327	-66.00715
Funeraria Aibonito Memorial	253 Calle San Jose E	Aibonito	18.1418	-66.2644
Esquillin Funeral Home Inc	159 Munoz Rivera St	Fajardo	18.327067	-65.651801
Funeral Orocovis Memorial	2 Calle 4 De Julio	Orocovis	18.21503	-66.43393
Funeraria Y Capillas Carrion Memorial	102 Calle Munoz Rivera	Canovanas	18.37962	-65.89912
Highland Memory Gardens Inc	1756 Ave Fernandez Juncos 2f	San Juan	18.441049	-66.063429
Funeraria Santa Rosa	1 Bo Pblo Carr 412 Km 0 1	Rincon	18.33903	-67.25149
Service Corporation International	Street 176 Km 6 2 Cpy Alt	San Juan	18.38816	-66.04533
Canales Funeral Home Inc	23 Calle Jacinto Seijo	Vega Alta	18.4135	-66.3296
Hector Lopez Hernandez	26 Calle Rafael Arrieta	TOA Baja	18.4422	-66.254
Funeraria Central	25 Calle San Antonio	Rio Grande	18.38018	-65.82869
Victor De Pedro	20 Calle Jesus T Pinero	Patillas	18.00615	-66.01459
Empresas Stewart-Rodriguez Osorio Inc	1712 Ave Ponce De Leon	San Juan	18.442327	-66.063595
Funeraria San Luis	507 Ave Miramar	Arecibo	18.471985	-66.727787
Fun Las Muosas	Carr 1	Cayey	18.105518	-66.166126
Memorial Enterprises Group	Carr Num 14 Km 49 3 St Carr N	Aibonito	18.144375	-66.262995
Funeraria Valle	63 Calle Munoz Rivera	Cabo Rojo	18.086302	-67.145387
Luciano Estrada Ferreira	146 Ave Univ Inter	San German	18.0786	-67.0455
Simplicity Plan De P R	368 Calle Dr Ramon E Beta	Mayaguez	18.22154	-67.086615
Funeraria Capilla Santiago	111 Calle Georgetti	Comerio	18.21782	-66.22807
Gonzales, Artuz Funeraria	Paseo De La Atenas	Manati	18.43252	-66.48489
Rosa Munoz, David	Bb32 Calle Castilla	Carolina	18.4218	-65.9807
Pepino Funeral Home	49 Calle Un	San Sebastian	18.3357	-66.988
Molina Torres, Jose A	5 Calle Munoz Rivera	Vega Alta	18.4122	-66.3295

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Cemeteries and Crematories (219)				
Business Name	Address	City	Latitude	Longitude
Orria Burgos, John	62 Calle Salvador Brau	Cabo Rojo	18.086	-67.146886
Anna Desarrollos Inc	Km 0 3 Cupey Lowr RR 844	San Juan	18.38816	-66.04533
Funeraria Capillas Cordero	30 Calle Georgetti	Barceloneta	18.45384	-66.53895
Funeraria Baez Memorial Inc	145 Calle Munoz Rivera	Guayanilla	18.0184	-66.7927
Funeraria Ebenecer	82 Calle Morse	Arroyo	17.9643	-66.0612
Barranquitas Memorial Funeral Home, Inc	1 Calle La Luciana	Barranquitas	18.184553	-66.306105
Torres Dueno, Carmen	10 Calle Industria	Dorado	18.457753	-66.258903
Funeraria Rivera	Km 13 HM 7 FL 3 RR 172	Cidra	18.17664	-66.16248
Central Roig Refining Co	63 Calle Georgetti S	Humacao	18.1484	-65.827
Empresas Stewart Y Compania, Inc	1715 Ave Ponce De Leon	San Juan	18.442378	-66.06348
Diaz Aquino, Daniel	15 Florencio Santiago St	Coamo	18.079151	-66.355749
Stewart Enterprises, Inc.	400 Calla Aguamarina	Ponce	18.017665	-66.617815
San Lorenzo Memorial, Inc.	155 Calle Tous Soto S	San Lorenzo	18.1884	-65.9605
Funeraria Angeles	160 Cile Luis Mnoz Rivera	Guayanilla	18.02784	-66.79066
Puerto Rico Memorial Inc	Ave Isla Verde Ste 4225	Carolina	18.442267	-66.021673
Funeraria San Cristobal	HM 489 Bo Sumidero RR 156	Aguas Buenas	18.26577	-66.10492
National Cemetery Administration	50 Ave Cmterio Nacional	Bayamon	18.444515	-66.11186
San Miguel Funeral Home	58 Calle Georgetti	Naranjito	18.2883	-66.2526
Marin Funeral Home	Calle Francia 500hato	San Juan	18.42609	-66.04246
Ortiz & Rodriguez Corp.	Calle Pasarell 20sur St Calle Pasare	Yauco	18.04581	-66.86354
Almodovar Montilla Funeral Home Inc	General Du Valle Las	San Juan	18.40657	-66.00339
Utuado Memorial Inc	55 Calle Dr Cueto	Utuado	18.265776	-66.701871
Jose Dewindt Sicar	56 Calle Acosta	Caguas	18.236994	-66.031773
Funeraria Barcelo Incorporado	157 Calle Tomas Cruz	Humacao	18.1518	-65.8317
Jibe Services Corporation		San Sebastian	18.349552	-67.002625
Ehret Inc	4 Calle Brema	San Juan	18.3843	-66.0671

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Table 5C: Puerto Rico Hospitals Cadaver Capacities

Name	Municipality	Capacity	Name	Municipality	Capacity
Hosp. Cayetano Coll Y Toste	Arecibo	23	Hospital Ashford Presbyterian	San Juan	2 +
Hosp. Universitario	Bayamon	0	HIMA San Pablo	Bayamón	2
Metropolitano De Cabo Rojo	Cabo Rojo	0	Hospital Pavia	Santurce	No
Hosp. San Juan Bautista Medical Center	Caguas	4	Doctor's Center	Bayamón	1
Hosp. General Menonita- Cayey	Cayey	0	Hospital Universitario de Adultos	San Juan	No
Hosp. Caribbean Medical Center	Fajardo	2	Hospital UPR	Carolina	10
Hosp/ Dr. Dominguez	Humacao	2	Hospital San Gerardo	San Juan	2
Hosp. General Castañer	Lares	4	Puerto Rico Children's Hospital	Bayamón	2
Professional Hosp. Inc - San Agustin	Manati		ASEM	San Juan	20
Centro De Salud Integral De Orocovis	Orocovis	0	Hospital de la Concepción	San Germán	3
Hosp Andres Grillasca Inc (Centro De Oncologica Avanzada)	Ponce	2	Hospital Auxilio Mutuo	San Juan	4
Hosp. Psiquiatria Forense De Ponce	Ponce	0	Hospital Buen Samaritano	Aguadilla	0
Hosp. Episcopal San Lucas 2	Ponce	6	Hospital Bella Vista	Mayaguez	2
Hospital De Veteranos	San Juan	12	San Carlos Borromeo	Moca	no
Hosp. Municipal De San Juan	San Juan	0	Mayagüez Medical Center	Mayagüez	14
Hosp. Psiquiatrico De Rio Piedras	San Juan	0	Clínica La Española	Mayagüez	no
Cst- Utuado	Utuado	1	Hospital Perea	Mayagüez	1
Hosp Metropolitano Tito Matei	Yauco	3	Hospital San Antonio	Mayagüez	3
Hosp. Psiquiatrico Correccional	San Juan	0	Hospital Hermanos Meléndez	Bayamón	2
Centro De Salud Susana Centeno - Vieques	Vieques	2	Hospital Oncológico	San Juan	2
Doctor's Center Hospital	Manati	3	HIMA San Pablo	Caguas	6
Hospital San Francisco	Rio Piedras	2	Hospital Metropolitano	San Juan	2
HIMA San Pablo	Humacao	2	Hospital Cardiovascular	San Juan	2
Hospital Metropolitano Dr. Susoni	Arecibo	No	Hospital Metropolitano	San Germán	1
HealthSouth Rehabilitation	San Juan	No	Doctor's Center Hospital	Santurce	2
Hospital Ryder Memorial	Humacao	4			
San Jorge Children's Hospital	San Juan	No	CDT de Vieques	Vieques	2
Hospital Menonita	Albonito	2	First Hospital Panamericano	Cidra	0
Hospital Lafayette	Arroyo	No	Hospital Episcopal San Lucas	Guayama	2
Hospital Wilma N. Vazquez	Vega Baja	2	Hospital Santa Rosa	Guayama	0
Hospital del Maestro	Rio Piedras	2	Hospital San Cristobal	Ponce	0
Manati Medical Center	Manati	4	San Juan Capestrano	Rio Piedras	0
Hospital Pavia	Hato Rey	No	Hospital Pediátrico	San Juan	0
HIMA San Pablo	Fajardo	3	Hospital Industrial	San Juan	0
Hospital Damas	Ponce	4	CDT de Culebra	Culebra	0

Graph 6A: Puerto Rico Critical Infrastructure and Key Resources



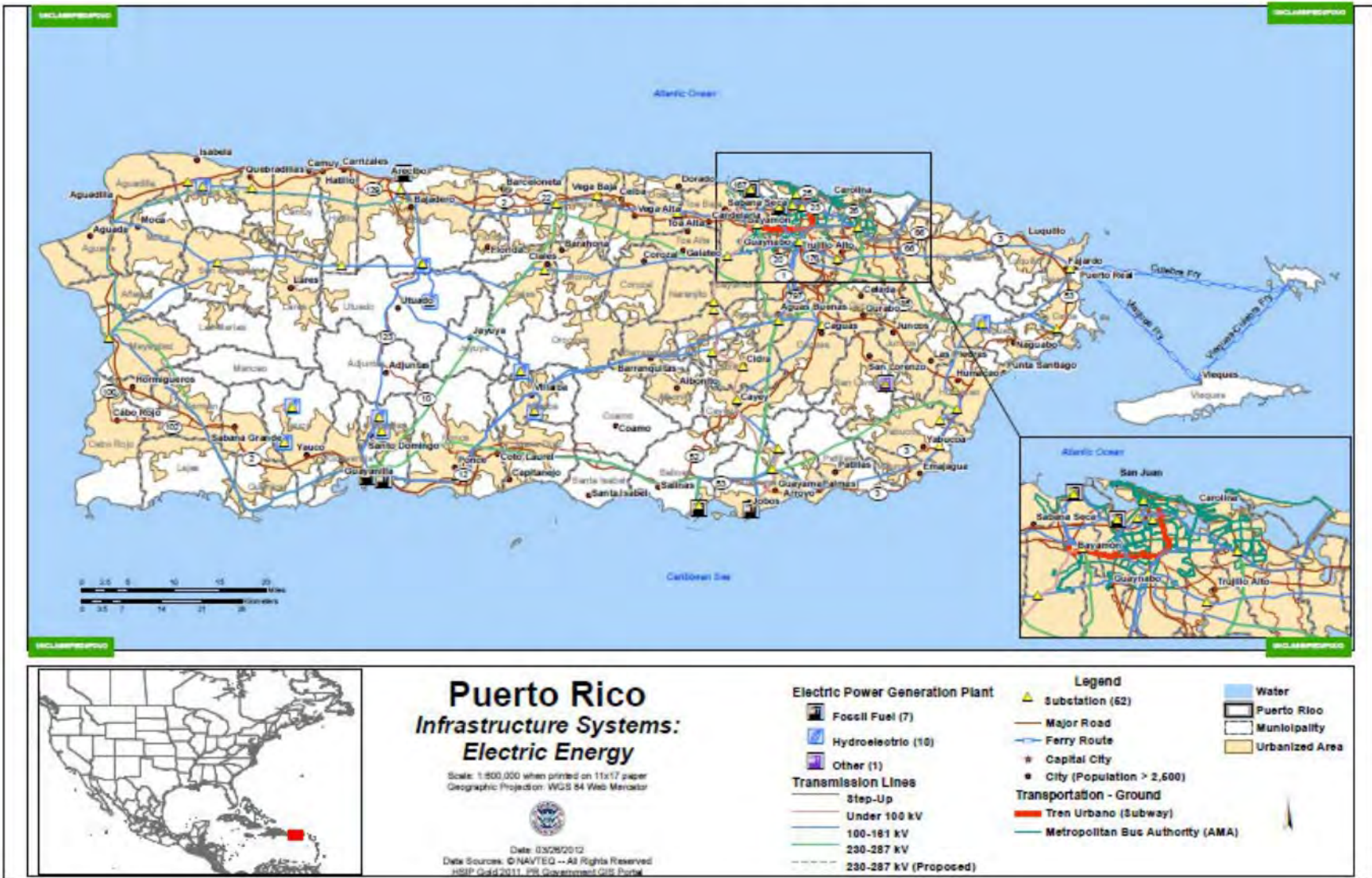
Table 6A: Critical Infrastructure and Key Resources Puerto Rico Data

<i>Critical Infrastructure Key Resources (CIKR)</i>					
<i>Sector</i>	<i>Name</i>	<i>Address</i>	<i>City</i>	<i>Latitude</i>	<i>Longitude</i>
Commercial Facilities	Plaza Las Americas	525 Avenue F.D. Roosevelt	San Juan	18.421914	-66.074588
Dams	Cerrillos Dam	Camino Cerrillo Hoyo	Coto Laurel	18.075988	-66.577324
Dams	Cidra Dam	Lago De Cidra	Cidra	18.197175	-66.140577
Dams	Carraizo Dam	Road. 175 Km. 3.0, Carraizo Abajo ward	Trujillo Alto	18.328106	-66.01577
Emergency Services	Puerto Rico Emergency Management Agency	P.O. Box 966597	San Juan	18.466851	-66.104948
Energy	Puerto Rico Electric Power Authority (PREPA) Electricity Distribution Center	Route 1, Km 15.2 San Roberto Street	San Juan	18.372877	-66.07304
Energy	Caribbean Petroleum Corp. (CAPECO)	Road 28 KM 2.0	Bayamon	18.4151	-66.1383
Healthcare and Public Health	American Red Cross Puerto Rico Blood Services Region	P.O. Box 366046	San Piedras	18.4658	-66.10951
Transportation	BRIDGE 1407	PR-22	SAN JUAN	18.4348	-66.0513
Transportation	BRIDGE 894	PR-22	SAN JUAN	18.4348	-66.0513
Transportation	BRIDGE 1537	PR-18	SAN JUAN	18.4348	-66.0513
Transportation	BRIDGE 1299	PR-18	SAN JUAN	18.4348	-66.0513
Transportation	BRIDGE 2012	PR-18	SAN JUAN	18.4348	-66.0513
Transportation	BRIDGE 2774	PR-22	SAN JUAN	18.4348	-66.0513
Transportation	San Juan CERAP	5000 Carr. 190	Carolina	18.438045	-66.004944
Transportation	Luis Munoz Marin International Airport	Salvador V. Caro Avenida	Carolina	18.439	-66.00182
Transportation	Department of Transportation and Public Works (DTPW)	Minillas Station 41269	San Juan	18.4472	-66.0695
Transportation	Minillas Tunnel	De Diego Avenue	San Juan	18.448272	-66.068573
Transportation	Metropolitan Bus Authority (MBA)	P.O. Box 195349	San Juan	18.4491	-66.0674
Water	Sergio Cuevas Water Filtration Plant	CARR. 181, KM 30	Trujillo Alto	18.3748	-66.0223
Water	Metropolitano Water System	Road 663 KM 1.6	San Juan	18.46617	-66.106654

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Graph 6B: Electric Energy



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PUERTO RICO CATASTROPHIC PLANNING ANNEX
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Table 6B.1: Electric Power Generation Plants Puerto Rico Data

<i>Electric Power Generation Plant</i>				
<i>Fossil Fuel (7), Hydroelectric (10) and Other (1)</i>				
<i>FUEL</i>	<i>NAME</i>	<i>CITY</i>	<i>LATITUDE</i>	<i>LONGITUDE</i>
Coal	Aurora (PR)	Jobos	17.946266	-66.149552
Gas	EcoElectrica	Tallaboa	17.993214	-66.728263
Petro	Aguirre	Central Aguirre	17.949285	-66.231564
Petro	Arecibo	Arecibo	18.480424	-66.696021
Petro	Central Palo Seco	Catano	18.455702	-66.148658
Petro	Costa Sur	Magas Arriba	17.999907	-66.75333
Petro	San Juan Plant	Catano	18.428091	-66.104434
Renew	El Gigante Verde de San Lorenzo	San Lorenzo	18.146177	-65.937627
Water	Caonillas 1	Utua	18.27734	-66.655359
Water	Carite No 1 Hydroelectric Plant	Mora	18.458929	-67.011917
Water	Dos Bocas	Utua	18.335698	-66.6659
Water	Garzas 1	Santo Domingo	18.094136	-66.734787
Water	Garzas 2	Penuelas	18.072723	-66.730027
Water	Rio Blanco	Rio Blanco	18.243426	-65.785129
Water	Toro Negro 1	Guayabal	18.101293	-66.490359
Water	Toro Negro 2	Villalba	18.166553	-66.511476
Water	Yauco 1	Yauco	18.110493	-66.871116
Water	Yauco 2	Lliveras	18.053464	-66.88409

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Table 6B.2: Electric Power Substations Puerto Rico Data

Substation (52)				
NAME	PROPOSED	CITY	LATITUDE	LONGITUDE
Aguas Buenas	In Service	Aguas Buenas, PR	18.247032	-66.106129
Aguirre	In Service	Central Aguirre, PR	17.953264	-66.23107
Arecibo	In Service	Arecibo, PR	18.454182	-66.70056
Aurora	In Service	Jobos, PR	17.961537	-66.139421
Bayamon	In Service	Guaynabo, PR	18.398855	-66.14046
Caonillas 1	In Service	Utuado, PR	18.27734	-66.655359
Carite No 1 Hydroelectric Plant	In Service	Mora, PR	18.458929	-67.011917
Central Hydroelectrica de Cante Num 1	In Service	Olimpo, PR	18.044731	-66.105844
Central Hydroelectrica de Caride Num 3	In Service	Olimpo, PR	18.012172	-66.11615
Central Palo Seco	In Service	Catano, PR	18.454625	-66.148749
Costa sur	In Service	Magas Arriba, PR	18.003042	-66.755039
Daguao	In Service	Aguas Claras, PR	18.23274	-65.667401
Don Bocos	In Service	Utuado, PR	18.33614	-66.666365
Dos Bocas	In Service	Utuado, PR	18.335698	-66.6659
Ecoelectrica	In Service	Tallaboa, PR	18.0089	-66.7297
El Gigante Verde de San Lorenzo	In Service	San Lorenzo, PR	18.146177	-65.937627
Fajardo	In Service	Fajardo, PR	18.329136	-65.646721
Garzas 1	In Service	Santo Domingo, PR	18.094136	-66.734787
Garzas 2	In Service	Penuelas, PR	18.072723	-66.730027
Hato Rey	In Service	San Juan, PR	18.42722	-66.067944
Humacao	In Service	Humacao, PR	18.137105	-65.826904
Mayaguez	In Service	Mayaguez, PR	18.219136	-67.159965
Monacillo	In Service	San Juan, PR	18.372796	-66.073014
Monte Carlo	In Service	Vega Baja, PR	18.445833	-66.391623
Planta de Hydroelectrica Comerio Num 1	In Service	Comerio, PR	18.263119	-66.207696
Planta de Tratamiento de Aguas Negras	In Service	Cidra, PR	18.174928	-66.161835
Planta Hydroelectrica Comerio Num 2	In Service	Naranjito, PR	18.277283	-66.20724
Puerto Nuevo	In Service	San Juan, PR	18.446696	-66.077766
Rio Blanco	In Service	Rio Blanco, PR	18.243142	-65.785157
Sabana Llana	In Service	Carolina, PR	18.395255	-65.980982
San Juan Plant	In Service	Catano, PR	18.427188	-66.104479
Toro Negro 1	In Service	Villalba, PR	18.104595	-66.489895
Toro Negro 2	In Service	Villalba, PR	18.166553	-66.511476
Union Carbide	In Service	Comunas, PR	18.088727	-65.85119
Unknown	In Service	San Antonio, PR	18.457106	-66.934544

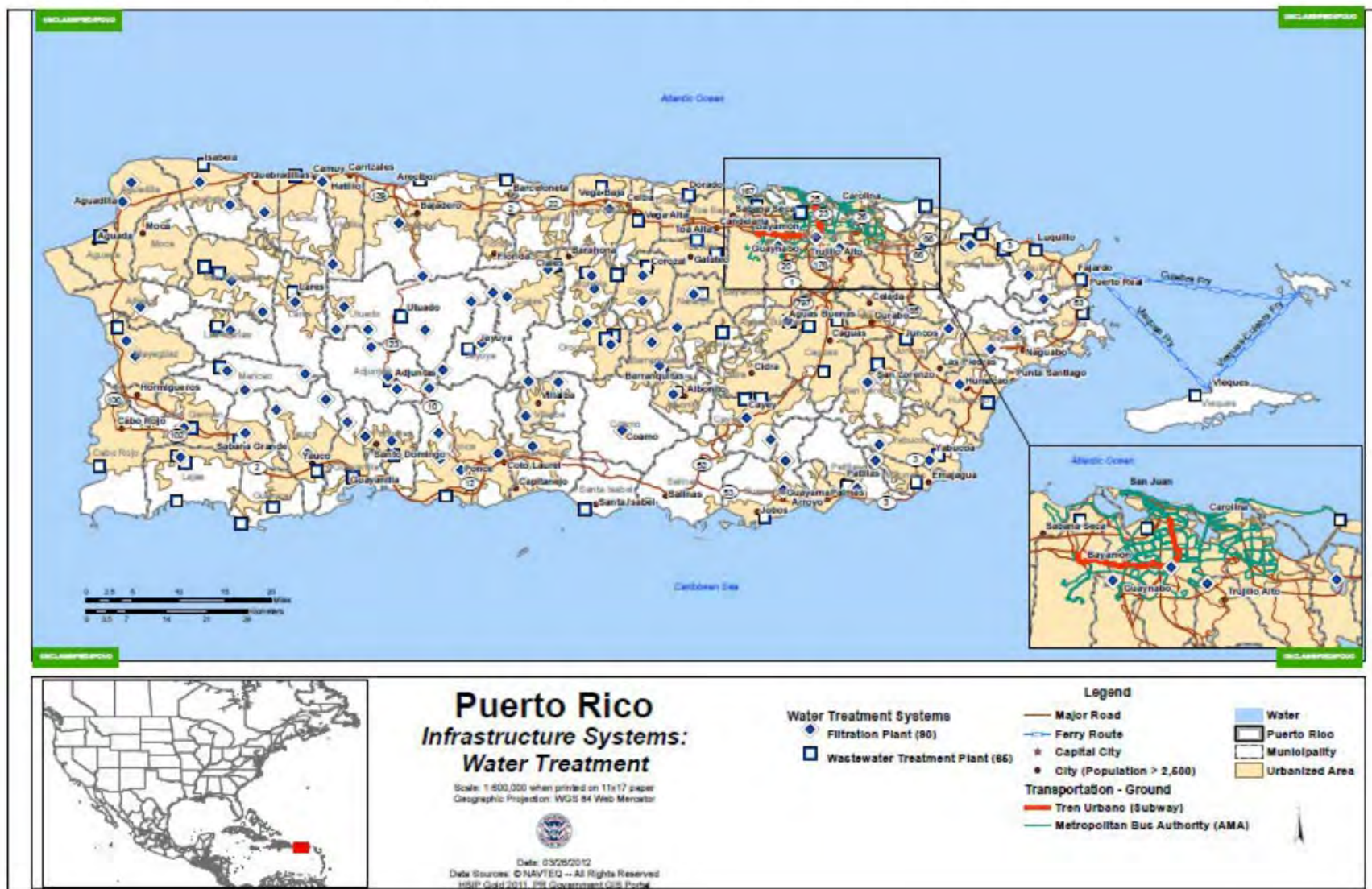
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Substation (52)				
NAME	PROPOSED	CITY	LATITUDE	LONGITUDE
Unknown	In Service	Mora, PR	18.466683	-67.035816
Unknown	In Service	Rio Lajas, PR	18.417735	-66.265562
Unknown	In Service	San Sebastian, PR	18.340089	-66.988936
Unknown	In Service	Ponce, PR	18.000943	-66.612182
Unknown	In Service	Quebrada, PR	18.333181	-66.794227
Unknown	In Service	Ciales, PR	18.327518	-66.473803
Unknown	In Service	Caguas, PR	18.239149	-66.037101
Unknown	In Service	San Juan, PR	18.429753	-66.083547
Unknown	In Service	Trujillo Alto, PR	18.343529	-66.012611
Unknown	In Service	Pajaros, PR	18.349632	-66.185604
Unknown	In Service	Candelerio Arriba, PR	18.105961	-65.824214
Unknown	In Service	Coto Norte, PR	18.433278	-66.45562
Unknown	In Service	Comerio, PR	18.198374	-66.209531
Unknown	In Service	Cayey, PR	18.120879	-66.170893
Yabucoa	In Service	El Negro, PR	18.048411	-65.851575
Yauco 1	In Service	Yauco, PR	18.110493	-66.871116
Yauco 2	In Service	Lluveras, PR	18.053464	-66.88409

Graph 6C: Water Treatment Facilities Puerto Rico Data



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PUERTO RICO CATASTROPHIC PLANNING ANNEX
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Table 6C.1: Water Treatment Facilities Puerto Rico Data

Water Treatment Systems Wastewater Treatment Plant (65)			
NAME	MUNICIPALITY	LATITUDE	LONGITUDE
Bayamón Regional WWTP	Bayamon	18.43715	-66.15235
Corozal WWTP	Corozal	18.3427	-66.3249
Dorado WWTP	Dorado	18.4549333	-66.2592167
Naranjito WWTP	Naranjito	18.2996167	-66.2373833
Toa Alta WWTP	Toa Alta	18.38505	-66.2465333
Vega Alta WWTP	Vega Alta	18.4156	-66.3379667
Carolina Regional WWTP	Carolina	18.4373167	-65.8874667
Barceloneta Regional WWTP	Barceloneta	18.4784833	-66.5436333
Ciales WWTP	Ciales	18.3441667	-66.4683667
Camuy Regional WWTP	Hatillo-Camuy	18.48615	-66.87535
Isabela WWTP	Isabela	18.5029167	-67.0192167
Jayuya WWTP	Jayuya	18.2138333	-66.6048333
Morovis WWTP (Biofilter)	Morovis	18.3339167	-66.4193833
Unibon WWTP	Morovis	18.3308167	-66.3725167
Utuado WWTP	Utuado	18.2654333	-66.7095333
Vega Baja WWTP	Vega Baja	18.4674333	-66.3958667
Arecibo Regional WWTP	Arecibo	18.4785833	-66.67925
Toa Alta Heights WWTP	Toa Alta	18.36315	-66.2155833
Aguada RWWTP	Aguadilla	18.3897667	-67.18095
Boquerón (Villa Taína)	Cabo Rojo	18.0292333	-67.18195
El Valle de Lajas WWTP	Lajas	18.03485	-67.0477
La Parguera WWTP	Lajas	17.97575	-67.0612167
Lajas WWTP	Lajas	18.04595	-67.0608
Las Marias WWTP	Las Marias	18.2487833	-66.99725
Maricao WWTP	Maricao	18.1854833	-66.9937667
Mayagüez RWWTP	Mayaguez	18.24755	-67.1539167
Sabana Grande WWTP	Sabana Grande	18.07045	-66.9635833
San Germán WWTP	San German	18.0902833	-67.03785
San Sebastián (Nueva) WWTP	Aguadilla	18.3429833	-67.0169667
Adjuntas WWTP	Adjuntas	18.1642167	-66.7273
Guánica WWTP	Guanica	17.9657167	-66.9098833
Playa Santa WWTP	Guanica	17.9401	-66.9600333
Guayanilla WWTP	Guayanilla	18.0120167	-66.7848
Alturas De Orocovis WWTP	Orocovis	18.2344167	-66.3772833

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Water Treatment Systems Wastewater Treatment Plant (65)			
NAME	MUNICIPALITY	LATITUDE	LONGITUDE
Orocovis WWTP	Orocovis	18.2301833	-66.3888667
Peñuelas WWTP	Peñuelas	18.0472833	-66.7210167
Ponce RWWTP	Ponce	17.9827667	-66.6387333
Santa Isabel Regional WWTP	Santa Isabel	17.9619667	-66.4212333
Yauco (Biofilter) WWTP	Yauco	18.0227667	-66.8417167
Aibonito WWTP	Aibonito	18.1459167	-66.2772833
Cayey RWWTP	Cidra	18.1340333	-66.1717333
El Torito WWTP	Cayey	18.1358333	-66.1465333
Comerio (Biofilter) WWTP	Comerio	18.2403167	-66.2064667
Guayama Regional WWTP	Guayama	17.9487167	-66.1403167
Patillas WWTP (RBS-AS)	Patillas	17.9986	-66.01135
Aguas Buenas	Aguas Buenas	18.2569167	-66.1010333
Las Carolinas (RBC)	Caguas	18.24865	-66.07035
Ceiba Package Plant	Ceiba	18.2692167	-65.6416833
Fajardo WWTP	Fajardo	18.3229833	-65.64405
Humacao Regional WWTP	Humacao	18.1293167	-65.79045
Juncos	Juncos	18.2286	-65.9176167
Luquillo (Brisas del Mar)	Luquillo	18.36855	-65.7154167
Coco Beach	Rio Grande	18.39355	-65.8013333
Palmer Package Plant	Rio Grande	18.3702	-65.7657667
San Lorenzo (Package Plant)	San Lorenzo	18.18965	-65.96355
Vieques WWTP	Vieques	18.1405333	-65.4660667
Yabucoa	Yabucoa	18.0476	-65.8685833
San Sebastian (Viejo)	San Sebastian	18.33275	-66.9952167
Maunabo Package WWTP (AS)	Maunabo	18.00425	-65.9021
Lares (Nueva)	Lares	18.3021667	-66.8789
Barranquitas (Nueva)	Barranquitas	18.1781167	-66.3004667
Parcelas Borinquen Ward WWTP	Caguas	18.1786667	-66.04775
Caguas (New)	Caguas	18.2583	-66.0271667
Puerto Nuevo	Rio Piedras	18.4282667	-66.0841333
Río Grande States WWTP	Río Grande	18.3852667	-65.8231667

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Table 6C.2: Water Filtration Plants Puerto Rico Data

Water Treatment Systems								
Filtration Plant (90)								
AAA_NPROY	Latitude	Longitude	AAA_NPROY	Latitude	Longitude	AAA_NPROY	Latitude	Longitude
01-PG-02	18.4463083	-67.1458417		18.3390778	-66.47977	39-PG-01	18.1423056	-66.2833361
01-PG-01	18.4446889	-67.1458444	38-PK-03	18.2891556	-66.33175	54-PK-02	18.1613639	-65.9788333
01-PG-03	18.4752139	-67.1321639	38-PG-02	18.2997694	-66.25146	54-PG-01	18.1722889	-65.9585194
7-PG-01	18.4754833	-67.0251	38-PG-01	18.32865	-66.33102	59-PG-01	18.1577917	-65.8344333
12-PP-02	18.4401194	-66.9789722	48-PG-01	18.2586833	-66.10374	59-PG-03	18.2137667	-65.7858639
	18.4399278	-66.9776306	48-PG-02	18.3724139	-66.02281	59-PG-02	18.2455583	-65.8515833
12-PG-01	18.4285278	-66.9232667	61-PG-01	18.3294833	-65.72676	62-PG-01	18.2422444	-65.7457889
17-PG-01	18.4764333	-66.8330528	61-PC-02	18.2916472	-65.70318	10-PG-02	18.0898222	-67.0492444
22-PG-01	18.4111361	-66.7133361	03-PG-01	18.2263778	-67.13983	10-PG-01	18.0435917	-67.0547278
32-PG-01	18.4333833	-66.8329389	03-PG-02	18.2025333	-67.12624	15-PK-02	18.1183778	-66.9050306
47-PG-02	18.3754972	-66.119	14-PG-03	18.2433944	-66.97726	15-PG-01	18.0815417	-66.9535722
47-PR-01	18.3890333	-66.0595194	14-PG-02	18.1796167	-66.98163	20-PK-83	18.07615	-66.7655806
52-PR-01	18.3765528	-65.8913694	14-PK-01	18.1494389	-66.95419	20-PK-02	18.0992278	-66.7929889
57-PK-01	18.3743167	-65.8266583	19-PK-04	18.1348611	-66.82746	20-PG-04	18.0502444	-66.8559694
57-PG-02	18.3773806	-65.8183944	19-PK-05	18.1742056	-66.85968	25-PG-02	18.0691528	-66.7246833
08-PG-01	18.2801583	-67.1185194	19-PK-03	18.2443472	-66.81125	25-PG-01	18.0409694	-66.6484611
13-PK-01	18.2716694	-66.9264111	19-PK-01	18.2443833	-66.761	25-PK-03	18.0815194	-66.6508028
13-PG-02	18.3199806	-66.9753722	19-PK-02	18.2163917	-66.75678		18.0494722	-66.5572417
	18.2797889	-66.7992917	24-PK-02	18.1805778	-66.64438	30-PK-03	18.0609	-66.5035139
18-PP-03	18.2798361	-66.7992972	24-PK-03	18.1521861	-66.6654	30-PG-01	18.0238111	-66.6156806
18-PP-02	18.3464222	-66.8168556	24-PG-04	18.1505917	-66.71598	30-PG-02	18.1084833	-66.5139944
18-PG-01	18.2857889	-66.8770472	24-PK-81	18.1708472	-66.73047	40-PG-01	18.0863806	-66.3633889
18-PG-01	18.2874278	-66.8753611	24-PG-01	18.243725	-66.67203	45-PK-02	18.0714972	-66.1308194
	18.3277	-66.6757528	29-PK-01	18.2234833	-66.583	45-PG-01	18.1052306	-66.1684806
28-PP-01	18.2958028	-66.5437944	29-PK-02	18.16295	-66.51009	50-PK-01	18.0381111	-66.1072778
28-PK-02	18.3024083	-66.5654889	34-PK-02	18.1614611	-66.46308	55-PK-03	18.0639889	-65.9609111
28-PK-03	18.2882944	-66.6000806	34-PG-01	18.2205028	-66.38121	55-PK-01	18.0389222	-65.9665194
33-PK-02	18.2544389	-66.4181972	39-PP-04	18.2475333	-66.27713	55-PG-02	18.0386694	-65.8821083
33-PK-03	18.3081083	-66.4069	39-PK-03	18.2241861	-66.31697	51-PG-01	17.9926194	-66.1108694
33-PG-04	18.3286194	-66.4110222	39-PG-02	18.1870889	-66.30463	56-PP-01	17.9954444	-65.9947917

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Table 7A: People with Disabilities by Municipality

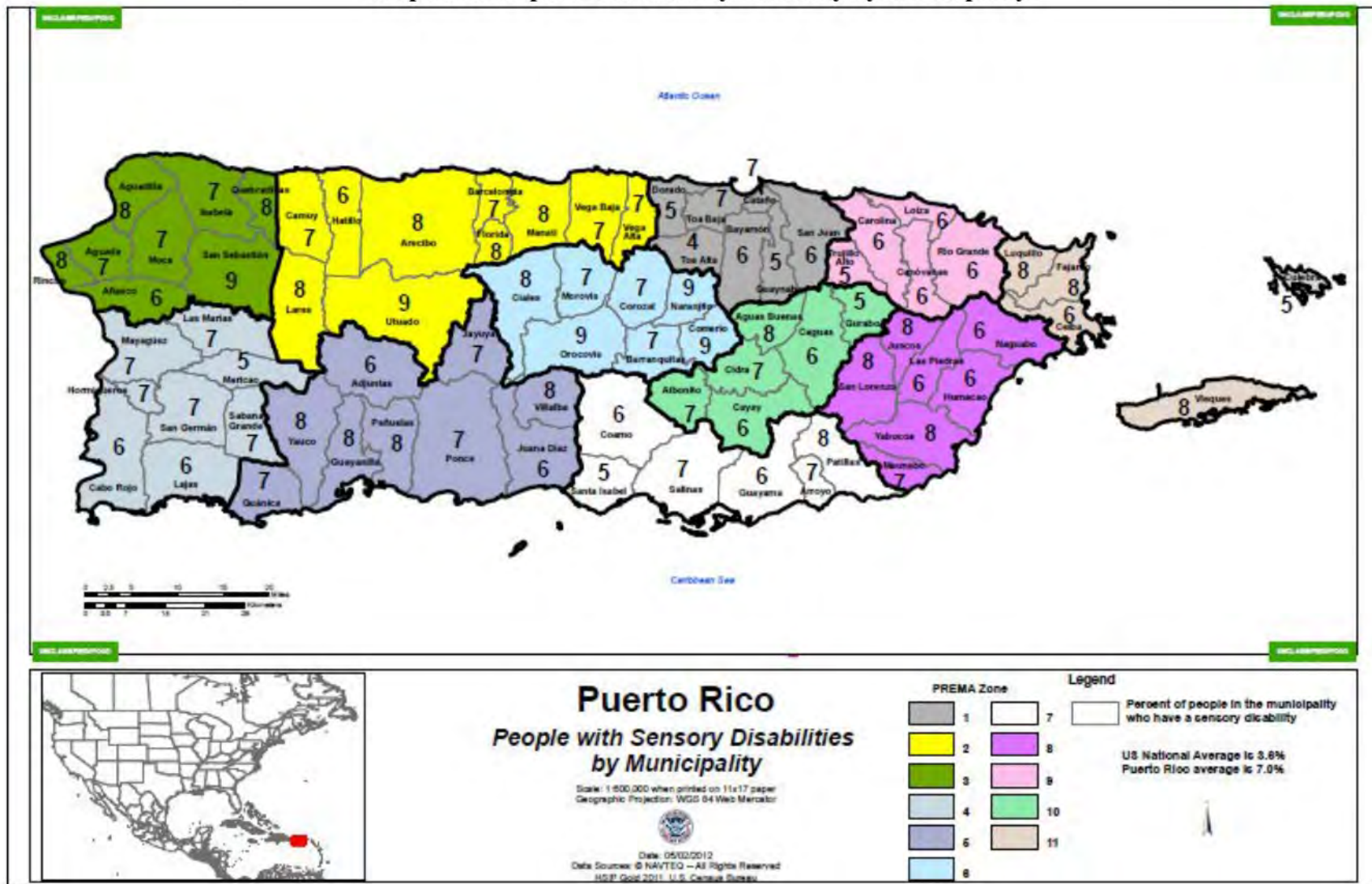
Municipality	PREMA Zone	5 Years and Over With a Disability (People)	% of Mun Pop	Municipality	PREMA Zone	5 Years and Over With a Disability (People)	% of Mun Pop	Municipality	PREMA Zone	5 Years and Over With a Disability (People)	% of Mun Pop
Adjuntas	5	4730	24%	Guánica	5	5567	29%	Peñuelas	5	6867	28%
Aguada	3	9401	22%	Guayama	7	11429	25%	Ponce	5	39816	24%
Aguadilla	3	16365	27%	Guayanilla	5	5303	25%	Quebradillas	3	7606	29%
Aguas Buenas	10	8481	30%	Guaynabo	1	19829	20%	Rincón	3	3737	25%
Aibonito	10	6556	25%	Gurabo	10	8978	20%	Río Grande	9	13041	24%
Añasco	3	8001	27%	Hatillo	2	9820	23%	Sabana Grande	4	7108	28%
Arecibo	2	27730	29%	Hormigueros	4	4146	24%	Salinas	7	7743	25%
Arroyo	7	5800	30%	Humacao	8	15366	26%	San Germán	4	9508	27%
Barceloneta	2	6178	25%	Isabela	3	10712	23%	San Juan	1	105962	27%
Barranquitas	6	7264	24%	Jayuya	5	4366	26%	San Lorenzo	8	10368	25%
Bayamón	1	49371	24%	Juana Díaz	5	11121	22%	San Sebastián	3	12713	30%
Cabo Rojo	4	11343	22%	Juncos	8	10185	25%	Santa Isabel	7	5353	23%
Caguas	10	32438	23%	Lajas	4	6317	25%	Toa Alta	1	13133	18%
Camuy	2	9126	26%	Lares	2	8104	26%	Toa Baja	1	20936	23%
Canóvanas	9	11182	23%	Las Marías	4	2887	29%	Trujillo Alto	9	16085	21%
Carolina	9	43251	24%	Las Piedras	8	9145	24%	Utua	2	9844	30%
Cataño	1	8092	29%	Loíza	9	7705	26%	Vega Alta	2	9502	24%
Cayey	10	12545	26%	Luquillo	11	5449	27%	Vega Baja	2	16625	28%
Ceiba	11	3612	26%	Manatí	2	12416	28%	Vieques	11	2484	27%
Ciales	6	6018	32%	Maricao	4	1574	25%	Villalba	5	6470	25%
Cidra	10	10512	24%	Maunabo	8	3283	27%	Yabucoa	8	10777	28%
Coamo	7	8616	21%	Mayagüez	4	23189	26%	Yauco	5	10132	24%
Comerio	6	6128	29%	Moca	3	9257	23%				
Corozal	6	10333	28%	Morovis	6	6827	21%				
Culebra	11	463	25%	Naguabo	8	7146	27%				
Dorado	1	8876	23%	Naranjito	6	8539	28%				
Fajardo	11	11242	30%	Orocovis	6	6797	29%				
Florida	2	3261	26%	Patillas	7	5578	29%				

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Graph 7B: People with a Sensory Disability by Municipality



NOTE: Limited Distribution. Release of this information is strictly controlled by DHS.

Table 7B: People with a Sensory Disability by Municipality

Municipality	PREMA Zone	5 Years and Over With a Disability (People)	% of Mun Pop	Municipality	PREMA Zone	5 Years and Over With a Disability (People)	% of Mun Pop	Municipality	PREMA Zone	5 Years and Over With a Disability (People)	% of Mun Pop
Adjuntas	5	1240	6%	Guánica	5	1378	7%	Peñuelas	5	1980	8%
Aguada	3	2932	7%	Guayama	7	2859	6%	Ponce	5	12209	7%
Aguadilla	3	4623	8%	Guayanilla	5	1718	8%	Quebradillas	3	2013	8%
Aguas Buenas	10	2272	8%	Guaynabo	1	4653	5%	Rincón	3	1200	8%
Aibonito	10	1846	7%	Gurabo	10	2049	5%	Río Grande	9	3284	6%
Añasco	3	1848	6%	Hatillo	2	2725	6%	Sabana Grande	4	1698	7%
Arecibo	2	7306	8%	Hormigueros	4	1133	7%	Salinas	7	2074	7%
Arroyo	7	1293	7%	Humacao	8	3779	6%	San Germán	4	2523	7%
Barceloneta	2	1832	7%	Isabela	3	3366	7%	San Juan	1	25261	6%
Barranquitas	6	2064	7%	Jayuya	5	1212	7%	San Lorenzo	8	3183	8%
Bayamón	1	11902	6%	Juana Díaz	5	2981	6%	San Sebastián	3	3763	9%
Cabo Rojo	4	3304	6%	Juncos	8	3039	8%	Santa Isabel	7	1141	5%
Caguas	10	9063	6%	Lajas	4	1669	6%	Toa Alta	1	3309	4%
Camuy	2	2429	7%	Lares	2	2544	8%	Toa Baja	1	5918	7%
Canóvanas	9	2632	6%	Las Marías	4	734	7%	Trujillo Alto	9	3879	5%
Carolina	9	9799	6%	Las Piedras	8	2248	6%	Utuado	2	3110	9%
Cataño	1	1964	7%	Loíza	9	1833	6%	Vega Alta	2	2699	7%
Cayey	10	3089	6%	Luquillo	11	1568	8%	Vega Baja	2	4403	7%
Ceiba	11	849	6%	Manatí	2	3546	8%	Vieques	11	764	8%
Ciales	6	1553	8%	Maricao	4	345	5%	Villalba	5	2208	8%
Cidra	10	3081	7%	Maunabo	8	885	7%	Yabucoa	8	2940	8%
Coamo	7	2572	6%	Mayagüez	4	6118	7%	Yauco	5	3309	8%
Comerio	6	1790	9%	Moca	3	2785	7%				
Corozal	6	2695	7%	Morovis	6	2398	7%				
Culebra	11	86	5%	Naguabo	8	1715	6%				
Dorado	1	2095	5%	Naranjito	6	2638	9%				
Fajardo	11	2890	8%	Orocovis	6	2136	9%				
Florida	2	1076	8%	Patillas	7	1482	8%				

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Graph 7C: People with a Physical Disability by Municipality

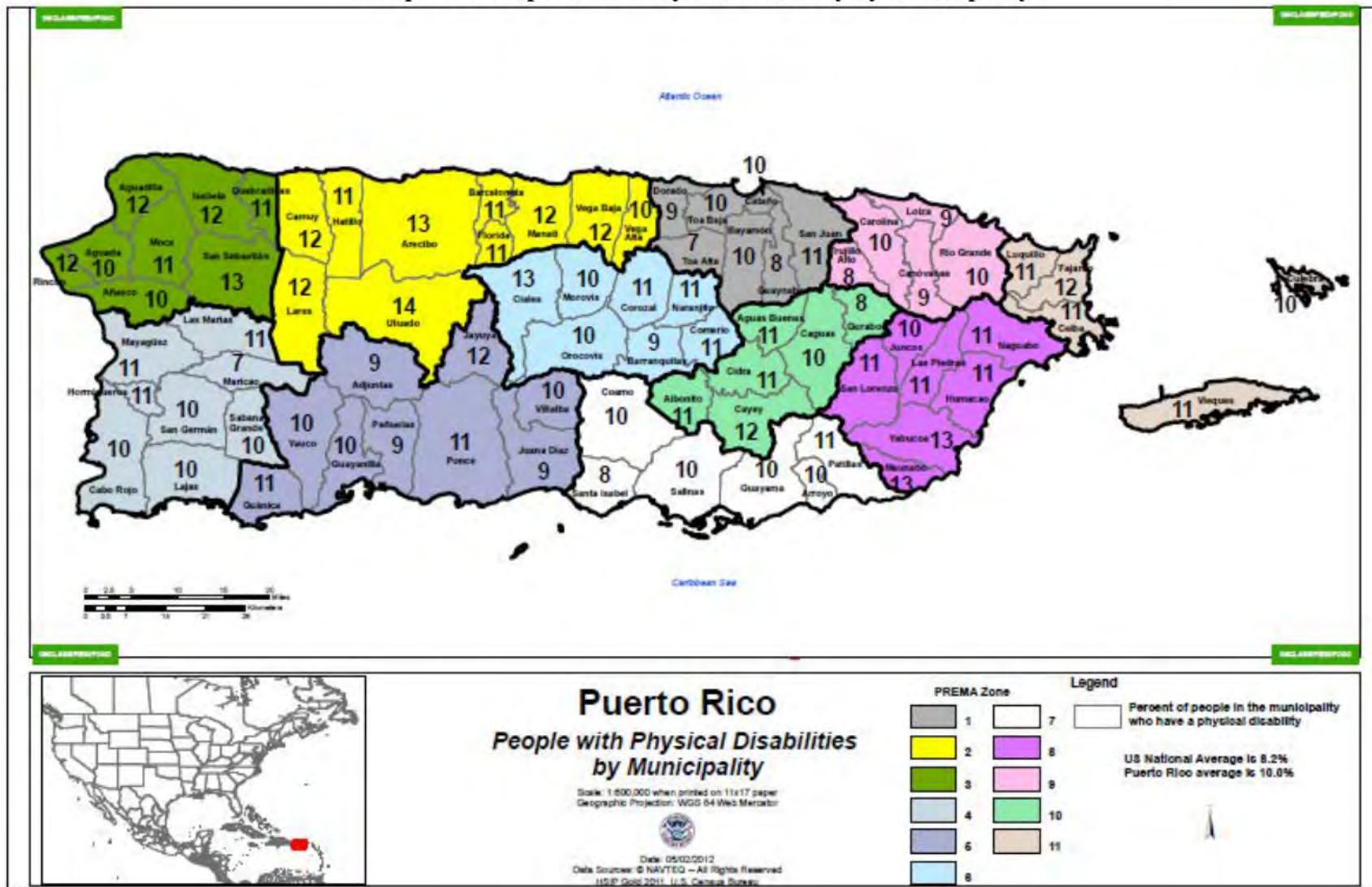


Table 7C: People with a Physical Disability by Municipality

Municipality	PREMA Zone	5 Years and Over With a Disability (People)	% of Mun Pop	Municipality	PREMA Zone	5 Years and Over With a Disability (People)	% of Mun Pop	Municipality	PREMA Zone	5 Years and Over With a Disability (People)	% of Mun Pop
Adjuntas	5	1744	9%	Guánica	5	2085	11%	Peñuelas	5	2272	9%
Aguada	3	4233	10%	Guayama	7	4622	10%	Ponce	5	17510	11%
Aguadilla	3	7419	12%	Guayanilla	5	2199	10%	Quebradillas	3	2927	11%
Aguas Buenas	10	3060	11%	Guaynabo	1	7844	8%	Rincón	3	1786	12%
Aibonito	10	2941	11%	Gurabo	10	3446	8%	Río Grande	9	5356	10%
Añasco	3	2857	10%	Hatillo	2	4530	11%	Sabana Grande	4	2606	10%
Arecibo	2	12828	13%	Hormigueros	4	1898	11%	Salinas	7	3051	10%
Arroyo	7	2006	10%	Humacao	8	6451	11%	San Germán	4	3703	10%
Barceloneta	2	2746	11%	Isabela	3	5316	12%	San Juan	1	42248	11%
Barranquitas	6	2696	9%	Jayuya	5	1928	12%	San Lorenzo	8	4458	11%
Bayamón	1	20828	10%	Juana Díaz	5	4809	9%	San Sebastián	3	5463	13%
Cabo Rojo	4	5014	10%	Juncos	8	4217	10%	Santa Isabel	7	1927	8%
Caguas	10	14937	10%	Lajas	4	2566	10%	Toa Alta	1	5147	7%
Camuy	2	4054	12%	Lares	2	3607	12%	Toa Baja	1	8595	10%
Canóvanas	9	4356	9%	Las Marías	4	1107	11%	Trujillo Alto	9	6122	8%
Carolina	9	18153	10%	Las Piedras	8	4137	11%	Utuado	2	4491	14%
Cataño	1	2852	10%	Loíza	9	2697	9%	Vega Alta	2	4064	10%
Cayey	10	5554	12%	Luquillo	11	2280	11%	Vega Baja	2	6862	12%
Ceiba	11	1495	11%	Manatí	2	5512	12%	Vieques	11	1043	11%
Ciales	6	2409	13%	Maricao	4	469	7%	Villalba	5	2496	10%
Cidra	10	4652	11%	Maunabo	8	1621	13%	Yabucoa	8	4981	13%
Coamo	7	3980	10%	Mayagüez	4	9806	11%	Yauco	5	4216	10%
Comerio	6	2211	11%	Moca	3	4269	11%				
Corozal	6	4005	11%	Morovis	6	3200	10%				
Culebra	11	176	10%	Naguabo	8	2808	11%				
Dorado	1	3340	9%	Naranjito	6	3362	11%				
Fajardo	11	4415	12%	Orocovis	6	2411	10%				
Florida	2	1448	11%	Patillas	7	2087	11%				

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Graph 7D: People with a Mental Disability by Municipality

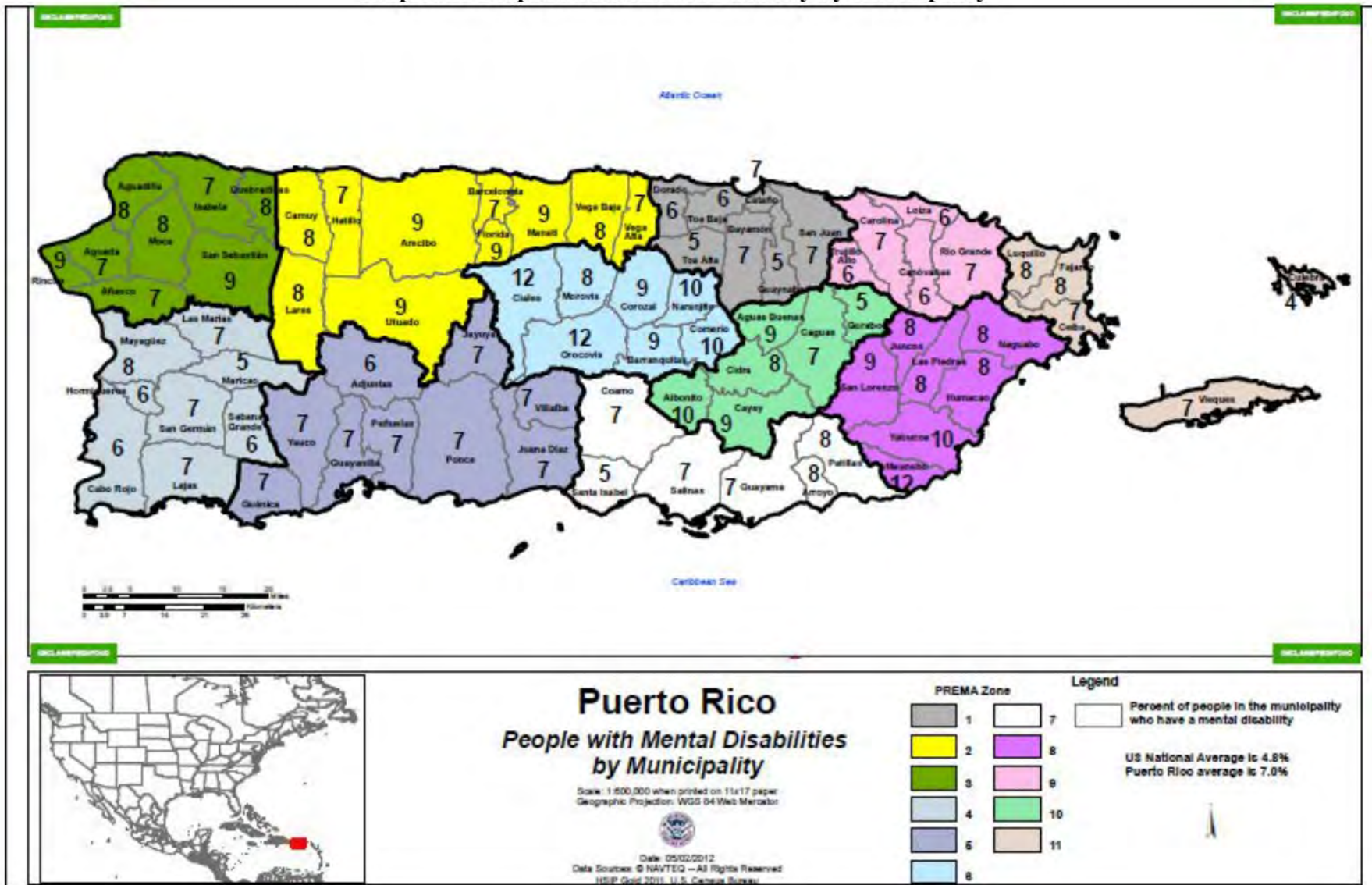


Table 7D: People with a Mental Disability by Municipality

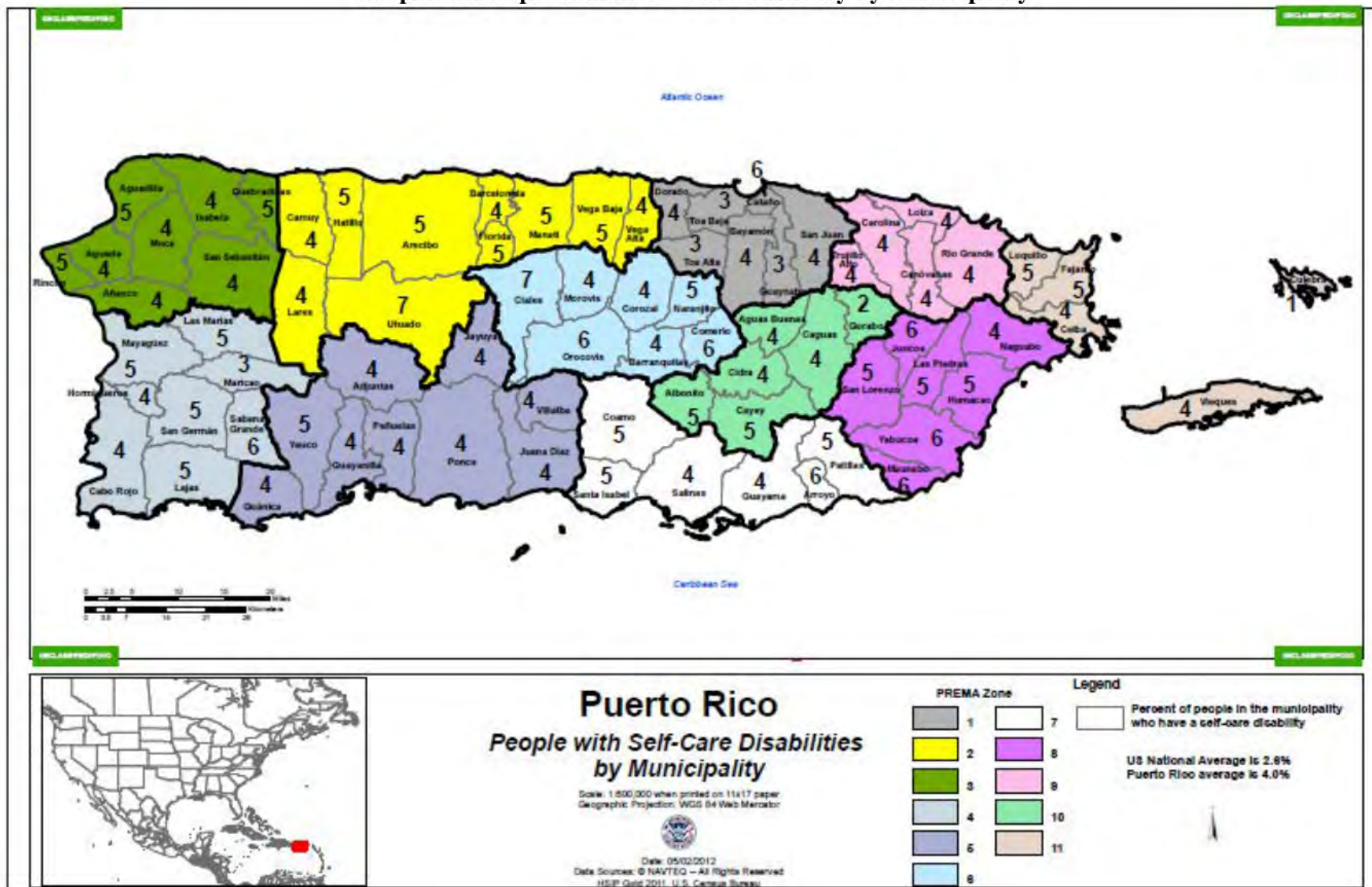
Municipality	PREMA Zone	5 Years and Over With a Disability (People)	% of Mun Pop	Municipality	PREMA Zone	5 Years and Over With a Disability (People)	% of Mun Pop	Municipality	PREMA Zone	5 Years and Over With a Disability (People)	% of Mun Pop
Adjuntas	5	1152	6%	Guánica	5	1300	7%	Peñuelas	5	1708	7%
Aguada	3	2930	7%	Guayama	7	3159	7%	Ponce	5	11601	7%
Aguadilla	3	5089	8%	Guayanilla	5	1581	7%	Quebradillas	3	2122	8%
Aguas Buenas	10	2669	9%	Guaynabo	1	5380	5%	Rincón	3	1301	9%
Aibonito	10	2463	10%	Gurabo	10	2220	5%	Río Grande	9	3687	7%
Añasco	3	1902	7%	Hatillo	2	2932	7%	Sabana Grande	4	1635	6%
Arecibo	2	8897	9%	Hormigueros	4	1077	6%	Salinas	7	2236	7%
Arroyo	7	1616	8%	Humacao	8	4419	8%	San Germán	4	2519	7%
Barceloneta	2	1741	7%	Isabela	3	3341	7%	San Juan	1	26896	7%
Barranquitas	6	2610	9%	Jayuya	5	1177	7%	San Lorenzo	8	3680	9%
Bayamón	1	14056	7%	Juana Díaz	5	3427	7%	San Sebastián	3	3607	9%
Cabo Rojo	4	3005	6%	Juncos	8	3027	8%	Santa Isabel	7	1204	5%
Caguas	10	9972	7%	Lajas	4	1885	7%	Toa Alta	1	3606	5%
Camuy	2	2906	8%	Lares	2	2513	8%	Toa Baja	1	5608	6%
Canóvanas	9	3093	6%	Las Marías	4	738	7%	Trujillo Alto	9	4646	6%
Carolina	9	11589	7%	Las Piedras	8	2950	8%	Utua	2	2931	9%
Cataño	1	1898	7%	Loíza	9	1879	6%	Vega Alta	2	2906	7%
Cayey	10	4398	9%	Luquillo	11	1615	8%	Vega Baja	2	4992	8%
Ceiba	11	955	7%	Manatí	2	4047	9%	Vieques	11	612	7%
Ciales	6	2256	12%	Maricao	4	326	5%	Villalba	5	1901	7%
Cidra	10	3580	8%	Maunabo	8	1462	12%	Yabucoa	8	3721	10%
Coamo	7	2798	7%	Mayagüez	4	6797	8%	Yauco	5	2916	7%
Comerio	6	2096	10%	Moca	3	3044	8%				
Corozal	6	3278	9%	Morovis	6	2605	8%				
Culebra	11	66	4%	Naguabo	8	2229	8%				
Dorado	1	2321	6%	Naranjito	6	2907	10%				
Fajardo	11	3052	8%	Orocovis	6	2759	12%				
Florida	2	1141	9%	Patillas	7	1516	8%				

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Graph 7E: People with a Self-Care Disability by Municipality



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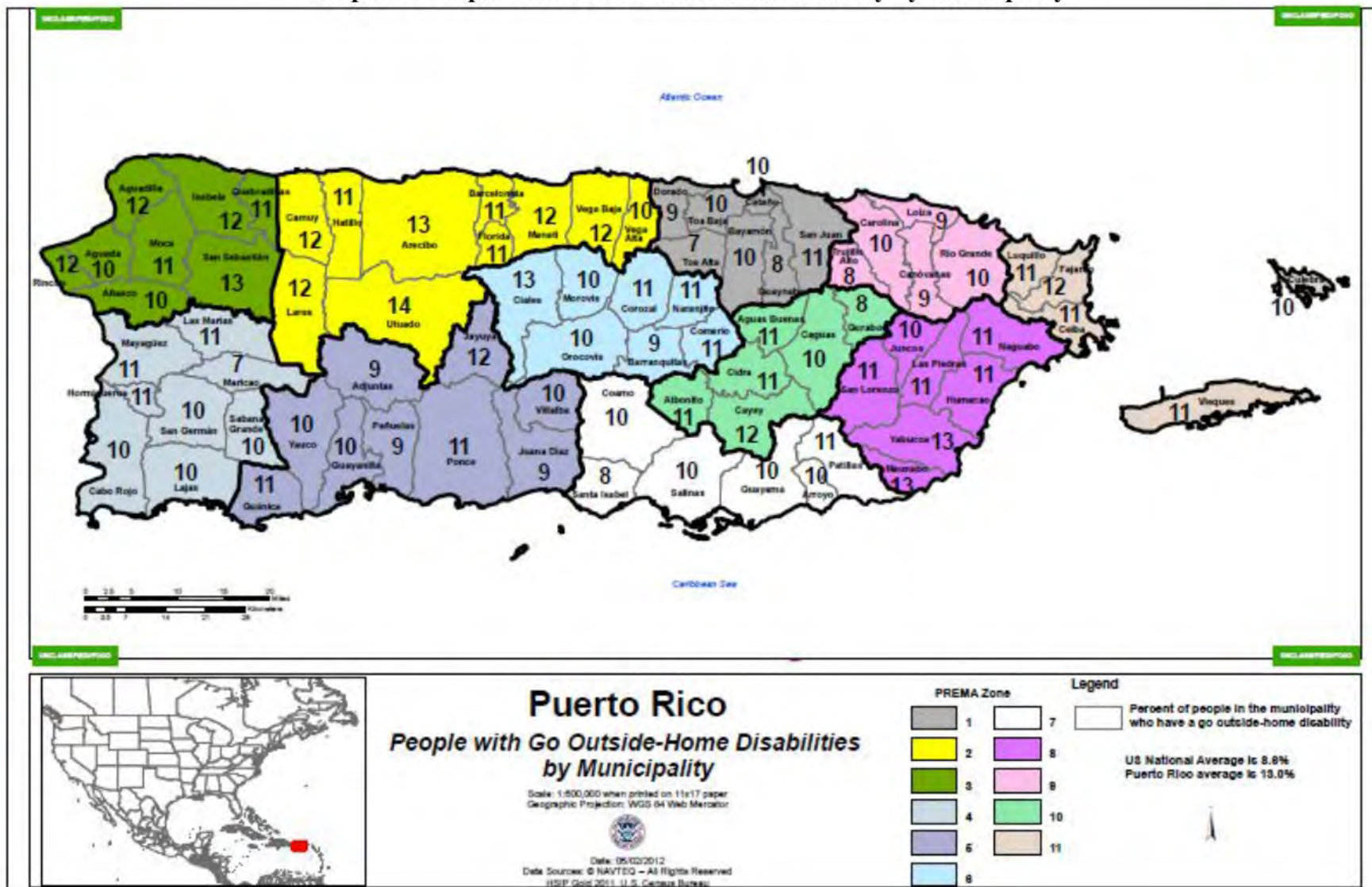
Table 7E: People with a Self-Care Disability by Municipality

Municipality	PREMA Zone	5 Years and Over With a Disability (People)	% of Mun Pop	Municipality	PREMA Zone	5 Years and Over With a Disability (People)	% of Mun Pop	Municipality	PREMA Zone	5 Years and Over With a Disability (People)	% of Mun Pop
Adjuntas	5	800	4%	Guánica	5	736	4%	Peñuelas	5	872	4%
Aguada	3	1744	4%	Guayama	7	1909	4%	Ponce	5	6240	4%
Aguadilla	3	2820	5%	Guayanilla	5	821	4%	Quebradillas	3	1262	5%
Aguas Buenas	10	1227	4%	Guaynabo	1	3380	3%	Rincón	3	758	5%
Aibonito	10	1217	5%	Gurabo	10	1038	2%	Río Grande	9	2140	4%
Añasco	3	1190	4%	Hatillo	2	2123	5%	Sabana Grande	4	1522	6%
Arecibo	2	4673	5%	Hormigueros	4	714	4%	Salinas	7	1250	4%
Arroyo	7	1227	6%	Humacao	8	3003	5%	San Germán	4	1804	5%
Barceloneta	2	974	4%	Isabela	3	1998	4%	San Juan	1	16042	4%
Barranquitas	6	1347	4%	Jayuya	5	662	4%	San Lorenzo	8	1923	5%
Bayamón	1	8054	4%	Juana Díaz	5	2053	4%	San Sebastián	3	1874	4%
Cabo Rojo	4	2091	4%	Juncos	8	2313	6%	Santa Isabel	7	1214	5%
Caguas	10	5214	4%	Lajas	4	1168	5%	Toa Alta	1	2155	3%
Camuy	2	1463	4%	Lares	2	1325	4%	Toa Baja	1	2951	3%
Canóvanas	9	1875	4%	Las Marías	4	512	5%	Trujillo Alto	9	2840	4%
Carolina	9	6455	4%	Las Piedras	8	1814	5%	Utuado	2	2190	7%
Cataño	1	1681	6%	Loíza	9	1311	4%	Vega Alta	2	1645	4%
Cayey	10	2253	5%	Luquillo	11	1052	5%	Vega Baja	2	2761	5%
Ceiba	11	488	4%	Manatí	2	2103	5%	Vieques	11	377	4%
Ciales	6	1363	7%	Maricao	4	214	3%	Villalba	5	1064	4%
Cidra	10	1527	4%	Maunabo	8	761	6%	Yabucoa	8	2171	6%
Coamo	7	1978	5%	Mayagüez	4	4157	5%	Yauco	5	1915	5%
Comerio	6	1163	6%	Moca	3	1710	4%				
Corozal	6	1393	4%	Morovis	6	1197	4%				
Culebra	11	22	1%	Naguabo	8	1182	4%				
Dorado	1	1526	4%	Naranjito	6	1599	5%				
Fajardo	11	2017	5%	Orocovis	6	1369	6%				
Florida	2	677	5%	Patillas	7	965	5%				

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Graph 7F: People with a Go-Outside Home Disability by Municipality



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Table 7F: People with a Go-Outside Home Disability by Municipality

Municipality	PREMA Zone	5 Years and Over With a Disability (People)	% of Mun Pop	Municipality	PREMA Zone	5 Years and Over With a Disability (People)	% of Mun Pop	Municipality	PREMA Zone	5 Years and Over With a Disability (People)	% of Mun Pop
Adjuntas	5	2754	14%	Guánica	5	3069	16%	Peñuelas	5	3907	16%
Aguada	3	4691	11%	Guayama	7	6073	13%	Ponce	5	18815	11%
Aguadilla	3	8233	14%	Guayanilla	5	2733	13%	Quebradillas	3	4193	16%
Aguas Buenas	10	4687	16%	Guaynabo	1	10197	10%	Rincón	3	1933	13%
Aibonito	10	3389	13%	Gurabo	10	5048	11%	Río Grande	9	6634	12%
Añasco	3	4976	17%	Hatillo	2	4827	12%	Sabana Grande	4	4277	17%
Arecibo	2	14432	15%	Hormigueros	4	2240	13%	Salinas	7	4041	13%
Arroyo	7	3393	17%	Humacao	8	8369	14%	San Germán	4	5582	16%
Barceloneta	2	3297	13%	Isabela	3	5187	11%	San Juan	1	56132	14%
Barranquitas	6	4023	13%	Jayuya	5	2152	13%	San Lorenzo	8	5372	13%
Bayamón	1	24780	12%	Juana Díaz	5	5860	12%	San Sebastián	3	6825	16%
Cabo Rojo	4	6001	12%	Juncos	8	5456	14%	Santa Isabel	7	3095	13%
Caguas	10	15081	11%	Lajas	4	3575	14%	Toa Alta	1	6348	9%
Camuy	2	4825	14%	Lares	2	4119	13%	Toa Baja	1	10181	11%
Canóvanas	9	5809	12%	Las Marías	4	1689	17%	Trujillo Alto	9	8069	11%
Carolina	9	21898	12%	Las Piedras	8	4849	13%	Utuado	2	4813	15%
Cataño	1	4157	15%	Loíza	9	4132	14%	Vega Alta	2	4769	12%
Cayey	10	6067	13%	Luquillo	11	3163	16%	Vega Baja	2	9242	15%
Ceiba	11	2063	15%	Manatí	2	6079	14%	Vieques	11	1361	15%
Ciales	6	3304	18%	Maricao	4	937	15%	Villalba	5	2922	11%
Cidra	10	5180	12%	Maunabo	8	1742	14%	Yabucoa	8	5962	16%
Coamo	7	4345	11%	Mayagüez	4	12640	14%	Yauco	5	5032	12%
Comerio	6	3047	15%	Moca	3	4848	12%				
Corozal	6	5599	15%	Morovis	6	3035	9%				
Culebra	11	207	11%	Naguabo	8	4217	16%				
Dorado	1	4743	12%	Naranjito	6	4316	14%				
Fajardo	11	5836	16%	Orocovis	6	3532	15%				
Florida	2	1712	14%	Patillas	7	3092	16%				

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PUERTO RICO CATASTROPHIC PLANNING ANNEX
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Graph 7G: Service Provider Agencies and possible Mass Congregation Locations

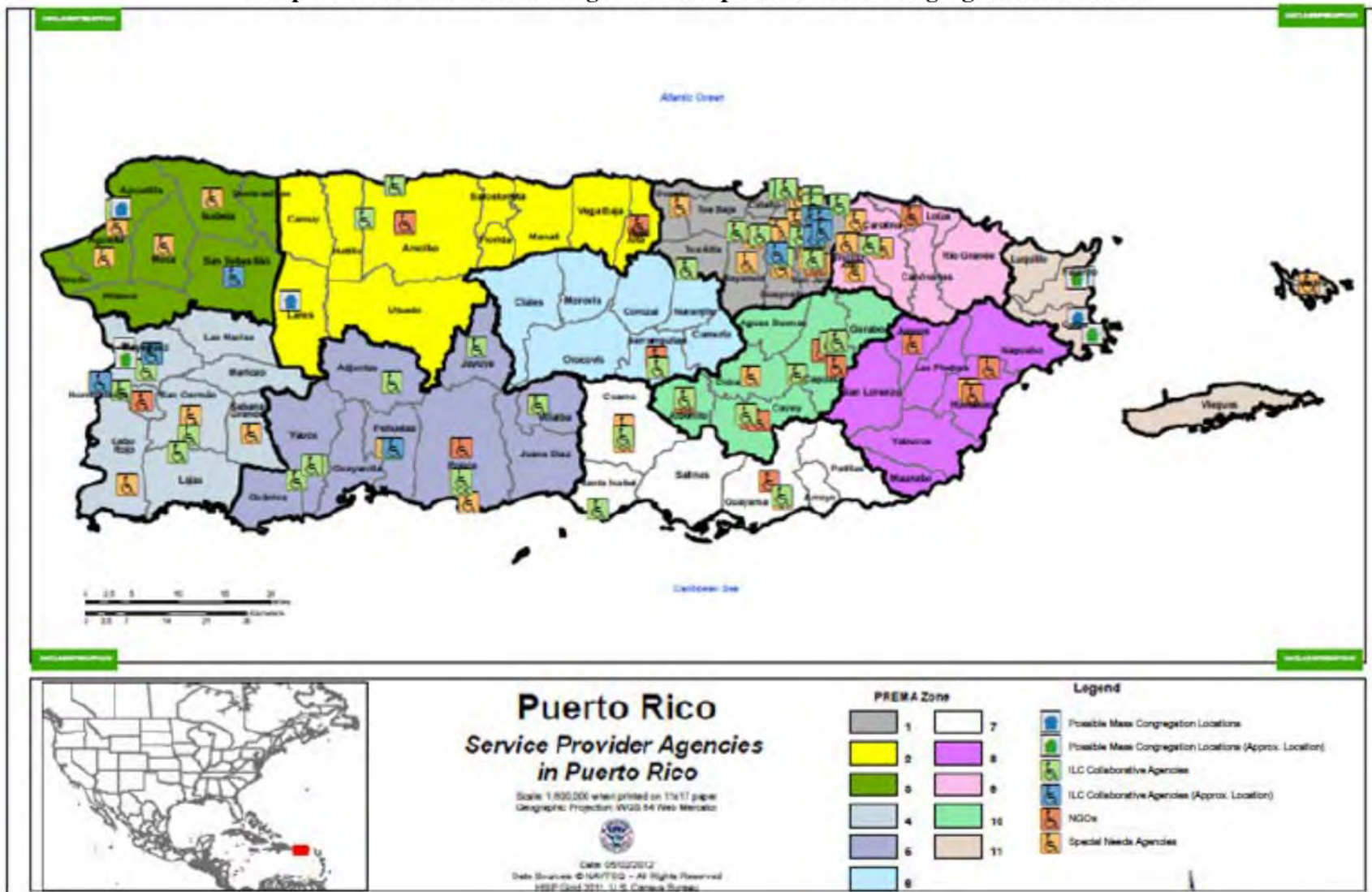


Table 7G.1: Service Provider Agencies

Independent Living Care			
Agency	Address	City	Zip Code
Casa Protegida Julia de Burgos Inc.	1065 Ave. Corazones Suite 109	Mayaguez	00680-4938
CEMECAV	100 Grand Boulevard Paseo	San Juan	00926-5955
Centro de Rehabilitación Vocacional	520 Ave. Ponce de León Suite 2	San Juan	00901
Centro Mujer y Nueva Familia		Aguadilla	
Comisión de Seguridad en el Trabajo	Apart. 21939 Estación UPR	San Juan	00931-1939
Coordinadora Paz para la Mujer	Apart. 21939 Estación UPR	San Juan	00931-1939
COTUI	Apart. 847	Barranquitas	00794-0847
Gob. Municipal de Yauco	Apartado 1	Yauco	00698
APRES (Prog. Respiro)	Apartado 133 Urb. Santa Rita Domingo Cabrera 872	San Juan	00925
Make a Wish Fundation	Apartado 1358	San Germán	00683
Bibliot. Regional para ciegos y Imp. Fis.	Apartado 1518	San Sebastián	00685
Oficina de Triple S Mayaguez	Apartado 191681	San Juan	00919-1681
Asociación de Alzheimer	Apartado 191681	San Juan	00928
Organizacion Puertorriqueña de la Mujer (OPMT)	Apartado 193008	San Juan	00936
Organizaciones feministas/ feministas en Marcha	Apartado 41289 Estación Minillas	Santurce	00940
Profesionales en Eval. Vocacional	Apartado 722	Arecibo	00612
Proyecto Mirada	Apartado 745	Mayaguez	00681
CEE (Consejo Estatal Elecciones)	Apartado 9543	Santurce	00908
Centro de Ayuda a Victimas de Violación		Arecibo	
Optometrics	Ave. domenech 369	Hato Rey	00918

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Administración Reh. Vocacional	Ave. Ponce de León 431 Edif. National Plaza 705	Hato Rey	00917
Casa Protegida Julia de Burgos Inc.		Bayamón	
Librería Nacional		Bayamón	
Rural Opportunities, Inc. Adjuntas	Bo. Juan González, Carr. 5516	Adjuntas	00601
Centro APACEDO		Rio Piedras	00928
Centro de Ayuda a Víctimas de Violación		Caguas	
Centro de Ayuda a Víctimas de Violencia		San Juan	00936
Centro Nuevo Horizonte	Calle 23 N-16 Alturas Flamboyán	Bayamon	00959
Centro Boani	Calle 25 de Julio #12	Yauco	00698
Rural Opportunities, Inc. Santa Isabel, PR 00757	Calle Betances # 13	Santa Isabel	00757
Oficina de asuntos de la Juventud	Calle San José #252 Viejo	San Juan	
Oficina de la Procuradora de la Mujer	Calle Tetuán / 253 Viejo San Juan Apt. 11382	San Juan	
Centro Espibi	Carr 349 km 3.1 cero Las Mesas	Mayaguez	00681
Accion Social de PR (Cayey)		Cayey	
APNI	Cond. San Vicente ofic. 404 Calle Concordia #43	Ponce	00731
QIPRO	Edif. Mercantil Plaza Ave. Ponce de León Suite 605	San Juan	00918-1695
Casa Protegida Julia de Burgos Inc.	GPO Box 362433	San Juan	00936-2433
Accion Social de PR (Guaynabo)		Guaynabo	
Asociación Niños y Adultos con RM	HC-03 Box 2295	Lajas	00667-9507
Oficina de Asistencia Médica-Jayuya		Jayuya	
Accion Social de PR (Mayaguez)		Mayaguez	
Centro de Ayuda a Víctimas de Violación		Mayaguez	
Rehabilitación Vocacional		Mayaguez	

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Centro de Ayuda a Víctimas de Violación		Metro	
Oficina de Triple S Carolina	Plaza Carolina, 1 er nivel	Carolina	
Oficina de Triple S Arecibo	Plaza Soller 536 Ave. Jose A. Cedeño Suite 108	Arecibo	00612
Asociación Puertorriqueña de	PMB 288 PO Box 70344	San Juan	00936-8344
CEVI	PMB170 PO Box 70344	San Juan	00936-8344
Oficina Personas con Impedimento -Peñuelas	Calle Amalia Marin final	Peñuelas	00624
Departamento Educación		Peñuelas	00624
Borinquen Biscuit, Inc.		yauco	00698
Centro ATREVI		San Juan	00919-1118
Asoc. Para un Mundo Mejor al Imp.		San Juan	00919-1684
EPI (Centro Adiestramiento Ser. Com.)		Guayama	00785
Fondos Unidos		San Juan	00919-1914
Fund. Puertorriqueña de Síndrome de Down		San Juan	00919-5273
Prog. Llame y Viaje		San Juan	00919-5340
Casa Pensamiento de Mujer del Centro		Aibonito	00705
Asociación Contra la Distrofia Muscular		San Juan	00928-1301
Administración Rehabilitación Vocacional		Coamo	00769
MAVI		San Juan	00928
Bacardi Corporation		San Juan	00936-3549
Casa Protegida Luisa Capetillo		Arecibo	00613
Transporte Federal		San Juan	00940-2007
Centro de Ayuda a Víctimas de Violación		San Juan	00936
Fundación Comunitaria		San Juan	00936-8362

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Fundación Chana y Samuel Levis		San Juan	00936-9638
Senadora Luz Arce		San Juan	00902-3431
Capitolio		San Juan	00902-3431
Asoc. Puertorriqueña de Diabetes		San Juan	00919-0842
Oficina de Triple S Caguas	Quadrangle Medical Center E50 Calle San Andrés	Caguas	00725-3973
Camara Mundi, Inc.	Reparto Industrial Cartagena km. 34.1 Carr.1	Caguas	00725
Instituto Fillius UPR- Río Piedras		Río Piedras	
Centro del Valle del Toa	RR-2	Toa Alta	00954
Asociación Americana del Corazón	RR-9 Buzón 1764 Ave. Victor Labrosa	San Juan	00926-9704
Oficina de Triple S San Juan	Serv. Al Cliente/ Ave. F.D. Roosevelt #1441	San Juan	00920
AARP	sk Calle Margarita	Hormigueros	00733-1709
Tipicos, Inc.		Coamo	00769
Asociación Puertorriqueña Pulmón	Urb. Colinas Metropolitana Calle Collores H-20	Cuaynabo	00969
Accion Social de PR	Urb. Glenview Garens /Ave. Glen V-2	Ponce	00730
Centro Tomatis de PR	Urb. La Rivera Calle 54 SE #1273	San Juan	00921
Centro Terapia Integrada (Centro Tomatis de PR)	Urb. La Riviera Calle 54 SE 1273	San Juan	00921
Municipio de Villalba Rel. Públicas		Villalba	
Municipio de Villalba		Villalba	
Oficina de Ayuda al Impedido		Villalba	
Departamento de Familia (Yauco)		Yauco	
Municipio de Yauco		Yauco	
AMMI		San Juan	00936-2026
ANEDA		San Juan	00936-2026

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Asociación Puertorriqueña de Parkinson	Ignacio Arzuaga Street	Carolina	
Administración de Seguro Social	F5 EBANO ST, 2ND FL	Guaynabo	00968
Women's Health			
Agency	Address	City	Zip Code
ASOCIACIÓN PUERTORRIQUEÑA PRO BIENESTAR DE LA FAMILIA ((PROFAMILIA)	PO Box 192379	San Juan	00919-2379
CASA DE LA BONDAD,, INC	PO Box 8999	Humacao	00792-0899
CASA PENSAMIENTO DE MUJER DEL CENTRO,, INC.	PO Box 2002	Aibonito	00705
CENTRO CRISTIANO HIJA DE JAIRÓ,, INC..	PO Box 2877	Guayama	00785-2877
CENTRO DE LA MUJER DOMINICANA,, INC..	PO Box 20068	San Juan	00928
CENTRO DE ORIENTACIÓN MUJER Y FAMILIA,, INC.	Calle Sánchez 107	Cayey	00736
CENTRO MUJER Y NUEVA FAMILIA,, INC.	Apartado 847	Barranquitas	00794
CLÍNICA DE SALUD MENTAL DE LA COMUNIDAD,, INC.	PO Box 9023711	San Juan	00902-3711
CREARTE,, INC..	PO Box 190969	San Juan	00919-0969
ESCUELA DE MEDICINA DE PONCE - CENTRO DE AYUDA PSICOLÓGICA Y SERVICIOS IINTEGRADOS (CAPSI)	PO Box 7004	San Juan	00732-7004
FACULTAD DE DERECHO EUGENIO MARÍA DE HOSTOS - CENTRO DE SERVICIOS JURÍDICOS – UNIDAD DE SERVICIOS LEGALES A MUJERES	Apartado 1900	Mayagüez	00681
HOGAR LA PIEDAD - FUNDACIÓN DE DESARROLLO COMUNAL DE PUERTO RICO,, INC.. (FUNDESCO)	Apartado 6300	Caguas	00726-6300
HOGAR CLARA LAIR,, INC.	Apartado 1653	Hormigueros	00660
HOGAR NUEVA MUJER SANTA MARÍA DE LA MERCED,, INC..	PO Box 37927	Cayey	00737
HOGAR RUTH,, INC..	PO Box 538	Vega Alta	00692
INICIATIVA COMUNITARIA,, INC.	PO Box 366535	San Juan	00936-6535
INSTITUTO DEL HOGAR CELIA Y HARRIS BUNKER,, INC.	PO Box 20155	San Juan	00928-0155

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INSTITUTO PRE VOCACIONAL E INDUSTRIAL (CAPROMUNI)	PO Box 1800	Arecibo	00613
LA CASA DE TODOS,, INC..	HC-23 Buzón 6128	Juncos	00777-9710
LA FONDITA DE JESÚS,, INC.	PO Box 19384	San Juan	00910-1384
LUCHA CONTRA EL SIDA,, INC.	PO Box 8479	San Juan	00910-0479
OFICINA PARA LA PROMOCIÓN Y EL DESARROLLO HUMANO,, INC.. ((OPDH)	PO Box 353	Arecibo	00613
PROYECTO MATRIA,, INC..	Calle Jiménez Sicardó #31	Caguas	00725
SERVICIOS LEGALES DE PUERTO RICO,, INC..	Apartado 9134	San Juan	00908-9134
TALLER SALUD,, INC.	PO Box 524	Loíza	00772-0524
TRAVELERS AIID OF PUERTO RICO	PO Box 38017	San Juan	00937-1017
UNIVERSIDAD DE PUERTO RICO - RECINTO DE CIENCIAS MÉDICAS	PO Box 365067	San Juan	00936-5067
UNIVERSIDAD DE PUERTO RICO - RECINTO DE HUMACAO - PROGRAMA DE PREVENCIÓN DE VIOLENCIA HACIA LAS MUJERES	CUH Station, 100 Carr. 908	Humacao	00791-4300
CENTRO DE AYUDA A VÍCTIMAS DE VIOLACIÓN ((CAVV)	PO Box 70184	San Juan	00936-8184
DEPARTAMENTO DE JUSTICIA	Apartado 9020192	San Juan	00902-0192
Unidades Especializadas De Violencia Domestica			
Policia De Puerto Rico - Coordinadora Divisiones Especializadas de Violencia Doméstica	PO Box 70166	San Juan	00936-8166
Oficina De Administraction De Los Tribunales	PO Box 190917	San Juan	00919-0917
CASA PROTEGIDA JULIA DE BURGOS,, INC..	PO Box 362433	San Juan	00936-2433
COORDINADORA PAZ PARA LA MUJER	Apartado 193008	San Juan	00919-3008
INSTITUTO LATINOAMERICANO DE EDUCACIÓN PARA EL DESARROLLO, CORP.	21 Hacienda del Lago, Carr. #175	San Juan	00926
UNIVERSIDAD DE PUERTO RICO, RECINTO DE MAYAGÜEZ (RUM), CENTRO DE INVESTIGACIÓN SOCIAL APLICADA (CISA) - DEPARTAMENTO DE CIENCIAS SOCIALES	PO Box 9266	Mayagüez	00681-9266

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Oficina De La Procuradora De Las Mujeres	PO Box 11382	San Juan	00910-1382
Families (Children/Adults) with Functional Needs			
Agency	Address	City	Zip Code
Acción Social de Puerto Rico	PO Box 3930	Guaynabo	00970-3930
Asociación de la Distrofia Muscular	Edificio Nacional Plaza, Suite 705, Ave. Ponce de Leon #431	San Juan	00918
Asociación de Niños y Adultos con Retardación Mental (ANARM)	Apartado 361904	San Juan	00936-1904
Asociación de Padres Pro-Bienestar de Niños con Impedimentos, Inc. (APNI)	Ave. Ponce de Leon #724	San Juan	00918
Asociación de Padres Programa Respire de PR, Inc. (APRES)	PMB 165, PO Box 71325	San Juan	00936
Asociación de Personas con Impedimentos, Inc.	Apartado 1358	San German	00638-1358
Asociación Espina Bífida e Hidrocefalia	Apartado 8262	Bayamon	00960-8032
Asociación Mayagüezana de Personas con Impedimentos	Apartado 745	Mayaguez	00681-0745
Asociación Nacional de Ciegos	PO Box 2319	Isabela	00662
Asociación Por Un Mundo Mejor Para el Impedido, Inc. (AMMI)	Apartado 1518	San Sebastian	00685-1518
Asociación Pro Ciudadanos con Impedimentos de Sabana Grande, Inc	Apartado 360	Sabana Grande	00637-0360
Asociación Pro Desarrollo Humano, Inc	Apartado 7579	Culebra	00775-0477
Biblioteca Regional para Ciegos y Físicamente Impedidos	520 Ave. Ponce de León Ste. 2	San Juan	00901
Centro Artesanías Cotuí	PO Box 1358 Calle Dr.Veve (final)	San Germán	00683
Centro de Adiestramiento y Servicios Comunitario EPI, Inc.	Calle José M. Angeli # 59 Sur PO Box 1918	Guayama	00784
Centro de Ayuda a Niños con Impedimentos de Isabela (CANAI):	Calle Dr. González # 133	Isabela	00622
Centro de Ayuda y Terapia al Niño con Impedimentos (AYANI)	Calle Monseñor Torres # 140 Bo. Pueblo	Moca	00676
Centro de Diagnóstico para Inteligencias Múltiples	PO Box 9023879 Calle Victoria esq Rosario #1551	Viejo San Juan	00902

Centro de Evaluación, Diagnóstico y Tratamiento Académico (CEDYTA), Pontificia Universidad Católica de Puerto Rico:	Ave. Las Américas, Estacion Postal 6	Ponce	00732
Centro de Información y Referidos (211 de Puerto Rico):	PO Box 191914	San Juan	00919-1914
Centro de Perlesía Cerebral Municipal de Ponce	PO Box 170916	Ponce	00733
Centro de Vida Independiente del Este (CVIE)	PO Box 1216	Carolina	00986-1216
Centro del Triunfo	PO Box 20197	San Juan	00928
Centro Educativo Strong	1832 Calle marginal	San Juan	00927
Centro Esperanza:	Apartado 482	Loiza	00772-0482
Centro Espibi	Carr. 349 Km. 3.1, Cerro Las Mesas	Mayaguez	00603
Centro Margarita	Apartado 1640	Cidra	00739
Centro Nuevos Horizontes	Calle N-16 #23, Alturas de Flamboyán	Bayamon	00959
Centro Ponceño de Vida Independiente (CEPVI)	PO Box 331903	Ponce	00733
Centro Universitario de Excelencia en Educación, Investigación y Servicios en Deficiencias en el Desarrollo(IDD), Recinto de Ciencias Médicas	PO Box 365067	San Juan	00936-5067
Children and Adults with Attention Déficit Disorders (CHADD)	PO Box 941	Dorado	00646-0941
Children Learning & Development Center	PO Box 2963	Carolina	00982
Clínica Pediátrica de Terapia	Urb. La Riviera, 1283 Calle 54S.E.	San Juan	00927
Colegio de Educación Especial y Rehabilitación (CODERI)	Calle Prolongación #19, Puerto Nuevo	San Juan	00936
Colegio San Gabriel, Inc.	Calle Prolongación #19	San Juan	00920
Consejo Estatal de Vida Independiente	PMB 170, PO Box 70344	San Juan	00936
Corporación de Padres Unidos Pro-Bienestar del Impedido (COPUBI)	PO Box 1279	Aguada	00602
Corporación para el Desarrollo Económico y Social de San Sebastián	PO Box 845	San Sebastian	00685

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Corporación Pública Industrias de Ciegos, Personas Mentalmente Retardadas y Otras Personas Incapacitadas de Puerto Rico	Calle San Rafael final, Pda. 20	San Juan	00903
Departamento para el Cuidado y Desarrollo Integral de los Niños (ACUDEN) del Departamento de la Familia	PO Box 15091	San Juan	00902
Escuela Mercedes Morales, Inc.	Urb. Víctor Braegger, Calle Eugenio #6 A	Guaynabo	00966
Fundación Acción Social El Shaddai, Inc.	Ignacio Arzuaga # 203	Carolina	00986
Fundación D.A.R., Inc.	PO Box 360648	San Juan	00936-0648
Fundación de Autismo y Trastornos Generalizados del Desarrollo	PO Box 13715	San Juan	00908
Fundación Dr. García Rinaldi, Inc.	PO Box 8816	San Juan	00910-0816
Fundación Gogui	Apartado 192336	San Juan	00919-2336
Fundación Modesto Gotay, Inc.	Apartado 665	Trujillo Alto	00977-0665
Fundación Pro Niños Impedidos de Oriente, Inc.	Urb. Villa Humacao, Calle 14 A-8	Humacao	00791
Fundación Puertorriqueña Síndrome Down	PO Box 195273	San Juan	00919-5273
Hospital del Niño de Puerto Rico	PO Box 2124	San Juan	00922
Iglesia y Centro Evangélico para Sordos	PO Box 194175	San Juan	00919
Instituto de Investigaciones Sobre Impedimentos y Rehabilitación de la Universidad de Puerto Rico (Instituto FILIUS)	1187 Calle Flamboyán	San Juan	00926-1117
Instituto de Servicios Educativos y Psicológicos de Puerto Rico, Inc.	PO Box 9719	Carolina	00988
Instituto Loaíza Cordero	Apartado 8622	San Juan	00910-8622
Instituto Multidisciplinario para Jóvenes con Excepcionalidades	Plaza Iturregui 14-B	San Juan	00924
Instituto Prevocacional e Industrial de PR	Apartado 1800	Arecibo	00613-1800
Instituto Psicopedagógico de PR	Apartado 363744	San Juan	00936-3744
Instituto Socio-Económico Comunitario, Inc (INSEC).	PO Box 9066542	San Juan	00906-6542
Make-A-Wish Foundation of Puerto Rico., Inc.	100 Gran Bulevar Paseos Ste. 112	San Juan	00926-5955

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Movimiento para el Alcance Vida Independiente, Inc. (MAVI)	PO Box 25277	San Juan	00928-5277
Nuestros Corazones Unidos de Puerto Rico, Inc.	Apartado 7183	Caguas	00726
Nutrix	RR-9 Box 1870	San Juan	00926
Oficina de Asuntos a Personas con Impedimentos, Municipio de Guaynabo	PO Box 7885	Guaynabo	00970
Oficina de Servicios a Personas con Impedimentos (OSPI), Municipio de Coamo	Box 187527	Coamo	00769
Oficina del Procurador de las Personas con Impedimento (OPPI)	Avenida Ponce de León # 670 , Caribbean Office Plaza	San Juan	00940-1309
Oficina para Personas con Limitaciones de Peñuelas	PO Box 10	Peñuelas	00624
Oficina Servicios a Personas con Impedimentos, Municipio de San Sebastián	PO Box 845	San Sebastián	00685
Oficina Servicios a Personas con Impedimentos	PO Box 371330	Cayey	00737-1330
Olimpiadas Especiales de Puerto Rico, Inc.	PO Box 11677	San Juan	00922-1677
Programa Manos que Ayudan, del Centro Sor Isolina Ferré	PO Box 213	Ponce	00734-3213
Proyecto de Asistencia Tecnológica para Personas con Impedimentos (PRATP), del Instituto FILIUS, Universidad de Puerto Rico	PO Box 364984	San Juan	00936-4984
Sección de Servicios a Niños con Necesidades Especiales, Departamento de Salud	PO Box 70184	San Juan	00936-8184
Sección Neurológica Pediátrica, Hospital Municipal de San Juan	PO Box 21405	San Juan	00928
Secretaría Auxiliar de Educación Especial, Departamento de Educación	PO Box 190759	San Juan	00919-0759
Servicio a Niños con Necesidades Especiales, Oficina Central (Programa de Head Start, Acuden)	Apartado 15091	San Juan	00901
Sociedad de Educación y Rehabilitación de PR (SER)	Apartado 360325	San Juan	00936
Sociedad de Padres de Niños y Adultos con Autismo	Ave. Ponce de León # 855	San Juan	00919
Sociedad Pro Niños Sordos de Ponce, Inc.	PMB Box 497, 609 Ave. Tito Castro Ste. 102	Ponce	00716-0211
Sociedad Puertorriqueña de Epilepsia	Calle Ruiz Soler #1100	Bayamón	00959-7365

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Taller el Caquí, Oficina de Servicios a Personas con Impedimentos de San Sebastián	PO Box 845	San Sebastian	00685
Taller Industrial para Personas con Impedimento de Coamo (TIPCO)	PO Box 3001	Coamo	00769
Hearing Impaired			
Agency	Address	City	Zip Code
Servicios Orientados al Sordo			
Evangelical Church & Centre for the Deaf			
Sign Language Interpreters, Inc.			
Centro de Sordos, Área de Interpretes en Guaynabo			
ASL Services; Latino, Inc.			
PR Sign Language Connection, Inc.			
Colegio San Gabriel para Niños Sordos			
Dra. Myrelis Aponte Samalot, Intérprete de Lenguaje de Señas			
Sr. Edwin Díaz, Intérprete de Lenguaje de Señas			
Sprint PR Relay			
SORENSEN Communications			
PURPPLE Communications, Inc.			
SPRINT RELAY			
PRRID			
GRACIAS VRS			
Asociación de Intérpretes Cristianos			

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Table 7G.2: Possible Mass Congregation Locations in Puerto Rico

Possible Mass Congregation Locations			
Location	Address	City	Coordinates
Parque H.J. Acevedo		Mayaguez	
Mayaguez Mall (parking area)	975 Interstate PR-2	Mayaguez	18.92000, -67.83700
Recinto Universitario de Mayaguez	PR-65	Mayaguez	18.214595, -67.142344
Las Cascadas Water Park (parking)	Carr 2 Km. 126.5	Aguadilla	18.2622, -67.843
Parque Marguez (parking)		Aguadilla	18.4363341, -67.1471254
Coliseo Felix Mendez	CII 2	Lares	18.289785, -66.883129
Cancha Felix Pedraza		Ceiba	18.2620906829834 -65.6504211425781
Ignacio Morales Davila HUD Project	Res. Ignacio Morales	Ceiba	
Coliseo Tomas Dones		Fajardo	18.3294830322266 -65.6404800415039
Res. Pedro Rosario Nieves (park)		Fajardo	

Table 7G.3: Expected Population Congregation Sites in Puerto Rico

Zone	Municipality	Name	Description	Ownership
1	Bayamon	Bayamon-Gardens	Baseball park with lighting, stands & roof	Municipality
1	Bayamon	Santa Monica- Bo Pajaros	Baseball park with lighting & stands	Sports & Recreation
1	Bayamon	Urb. Monte Carlo	Baseball park with lighting	Sports & Recreation
1	Dorado	Parque Atletico Maguayo	Baseball park & volleyball court with lighting & stands	Municipality
1	Guaynabo	Alturas de Torimar	Baseball park with lighting	Municipality
1	San Juan	El Comandante	Baseball park with lighting, stands & roof	Municipality
1	San Juan	El Senorial (Crown Hills)	Baseball park with lighting, stands & roof	Municipality
1	San Juan	Ext. Roosevelt y La Merced	Baseball park	Municipality
1	San Juan	Hyde Park	Baseball park with lighting	Municipality
1	San Juan	Monte Carlo	Baseball park with lighting, stands & roof	Municipality
1	San Juan	Park Gardens	Baseball park with lighting & stands	Municipality
1	San Juan	Parque Barbosa	Baseball park with lighting, stands & roof	Sports & Recreation
1	San Juan	Reparto Altamesa	Baseball park with lighting, stands & roof	Municipality
1	San Juan	San Fernando	Baseball park with lighting & stands	Municipality
1	San Juan	Summit Hills	Baseball park with lighting, stands & roof	Municipality
1	San Juan	Urb. Garcia (Milaville)	Baseball park without lighting & stands	Municipality

Zone	Municipality	Name	Description	Ownership
1	San Juan	Urb. Sagrado Corazon	Baseball park with lighting & stands	Sports & Recreation
1	San Juan	Urb. Santiago Iglesias- Bo. Monacillos	Baseball park with lighting & stands	Municipality
1	San Juan	Urb. Santiago Iglesias- Bo. Monacillos	Baseball park with lighting, stands & roof	Municipality
1	San Juan	Venus Gardens	Baseball park with lighting, stands & roof	Municipality
1	San Juan	Villa de San Francisco	Baseball park with lighting	Municipality
1	San Juan	Villa Prades	Baseball park with lighting & stands	Municipality
1	San Juan	Parque Quisqueya	Baseball park with lighting & stands	Municipality
1	San Juan	Reparto Metropolitano	Baseball park with lighting, stands & roof	Municipality
1	San Juan	University Gardens - Bo. Hato Rey	Baseball park with lighting & stands	Municipality
1	Toa Alta	Alturas de Montecasino	Baseball park with lighting	Municipality
1	Toa Alta	Toa Alta Heights- Fase Sur	Baseball park with lighting & stands	Municipality
1	Toa Alta	Urb. Madeline - Bo. Mucarabones	Baseball park with lighting	Municipality
4	Mayaguez	Liga Paris	Baseball park with lighting & stands	Municipality
4	Mayaguez	Parque Isidro Garcia	Baseball professional stadium with stands, roof, lighting, dogouts, cantine, bathrooms, offices, electronica boards, fences and athletic track	Municipality
4	Mayaguez	Urb. Ramirez - Bo. Miradero	Baseball park with lighting & stands	Municipality
5	Ponce	El Madrigal - Bo. Magueyes	Baseball park with lighting & stands	Municipality
5	Ponce	Glenview Gardens - Bo. Machuelo Arriba	Baseball park with lighting, stands & roof	Municipality
5	Ponce	Jardines del Caribe 1era secc Bo Canas	Baseball park with lighting & stands	Municipality
5	Ponce	Jardines del Caribe 5ta seccion	Baseball park with lighting, stands & roof	Municipality
5	Ponce	Las Delicias Bo. Magueyes	Baseball park with lighting, stands & roof	Municipality
5	Ponce	Lirios del Sur (La Flaca) Bo. Canas	Baseball park with lighting, stands & roof	Municipality
5	Ponce	Perla del Sur - 1era seccion Bo. Canas	Baseball park with lighting, stands & roof	Municipality
5	Ponce	Primera Unidad de Planificacion	Baseball park with lighting, stands & roof	Municipality
5	Ponce	Punto Oro - Bo. Canas	Baseball park with lighting, stands & roof	Municipality
5	Ponce	San Antonio- Bo. Canas	Baseball professional stadium with stands, roof, lighting, dogouts, cantine, bathrooms, offices, electronic board, fences & athletic track	Municipality
5	Ponce	Urb. Los Caobos - Bo Bucana	Baseball park with lighting, stands & roof	Municipality
5	Ponce	Urb. Rio Canas - Bo. Canas	Baseball park	Municipality
5	Ponce	Valle Alto - Bo. Cerrillos	Baseball park with lighting, stands & roof	Municipality
5	Ponce	Villa del Carmen Bo. San Antonio 1era seccion	Baseball park with stands & roof	Municipality
5	Ponce	Villa Grillasca- Parque Atletico	Baseball park with lighting, stands & roof	Municipality
8	San Lorenzo	Ext Jardines de San Lorenzo	Baseball park	Municipality
8	San Lorenzo	Jardines de San Lorenzo	Baseball park	Municipality
9	Carolina	Country club- 4ta extension	Baseball park with lighting & stands	Municipality

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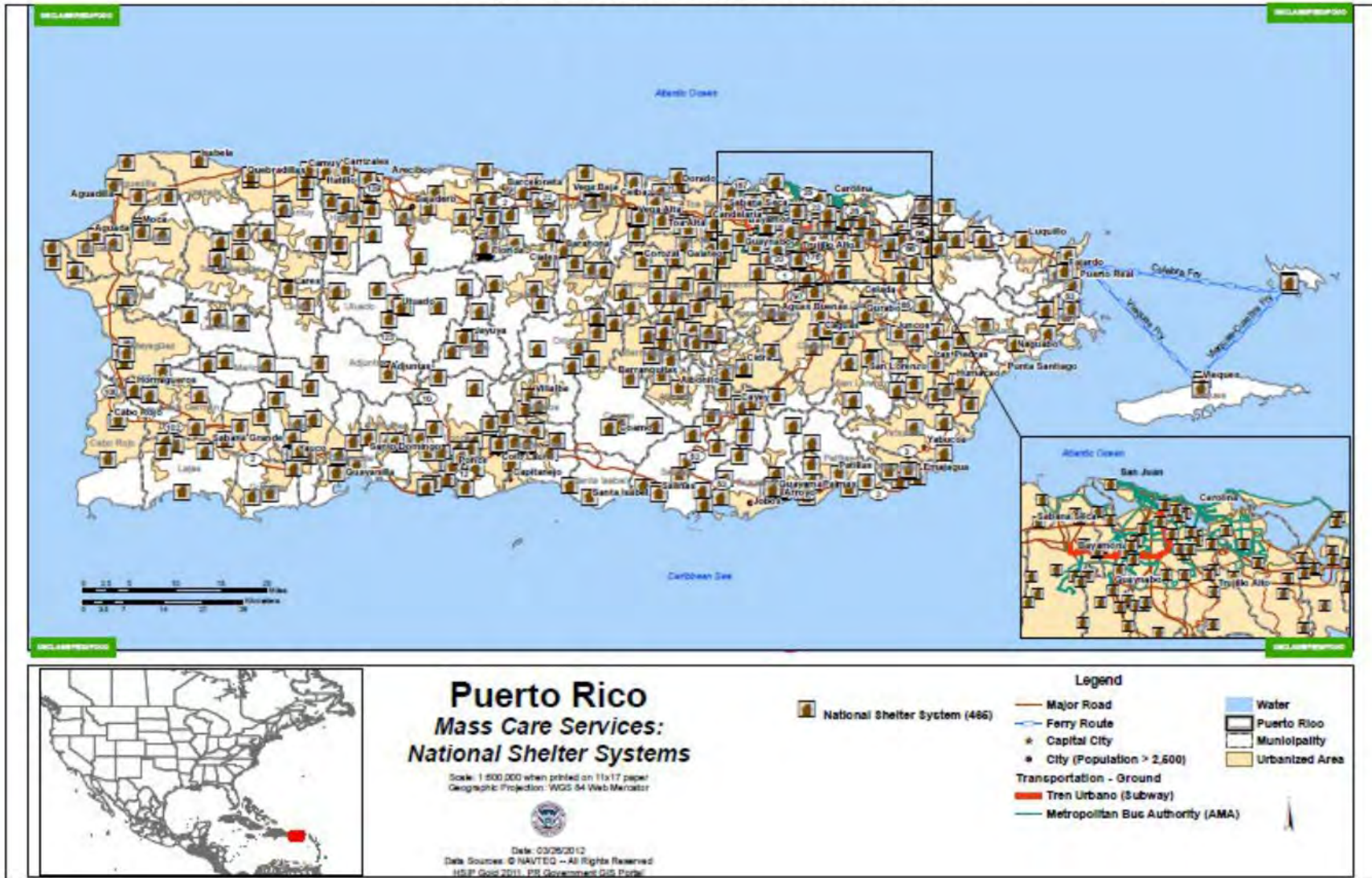
Zone	Municipality	Name	Description	Ownership
9	Carolina	Country club- 4ta seccion	Baseball park with lighting & stands	Municipality
9	Carolina	Country club- 4ta seccion- Bo. Sabana Abajo	Baseball park with lighting & stands	Municipality
9	Carolina	Laguna Gardens- Bo Cangrejos Arriba	Baseball & softball parks with lighting & stands	Municipality
9	Carolina	Metropolis - Bo. Martin Gonzalez	Baseball park with lighting & stands	Municipality
9	Carolina	Severo Quinones- zona urbana	Baseball park	Sports & Recreation
9	Carolina	Villa Carolina Bo. Hoyos Mula	Baseball park with lighting, stands & roof	Municipality
9	Carolina	Villa Mar - Bo Cangrejos Arriba	Baseball park with lighting & stands	Municipality
10	Aguas Buenas	Proyecto Parque Bo. Juan Asencio	Baseball park with lighting, stands & roof	Municipality
10	Caguas	Bairoa Golden Gate 2da. Seccion	Baseball park with lighting, stands & roof	Municipality
10	Caguas	Caguas Norte Y Secc. Santa Juana- Bo. Bairoa	Baseball park with lighting, stands & roof	Municipality
10	Caguas	El Condado- Bo. Bairoa	Baseball park	Municipality
10	Caguas	Residencial Bairoa	Baseball park with lighting, stands & roof	Municipality
10	Caguas	Turabo Gardens- Bo. Cañaboncito	Baseball park with lighting & stands	Municipality
10	Caguas	Villa Blanca- Bo. Bairoa	Baseball park with lighting, stands & roof	Municipality
11	Ceiba	Parque en Bo. Chupacallos	Baseball park with lighting, stands & roof	Municipality

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Graph 7H: National Shelters in Puerto Rico



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Graph 7I: Puerto Rico Points of Distribution



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Table 7I: Municipal Distribution Centers in Puerto Rico

Municipality	Name	Address	Coordinates
Zone I			
Dorado	Iglesia Cristiana Discípulos de Cristo	Carr. 2 entrada Urb. Los Montes y Guariso Bo. Espinosa, Dorado PR.	N 18 24 15.78 W 66 17 47.08
Dorado	Anfiteatro Ángel "Músico" Hernández	Calle Norte Esq. Jesús T. Piñeiro Urb. Martorell, Dorado PR	N 18 27 36.38 W 66 15 43.67
Dorado	Centro de Servicios Múltiples Sixto Mojica	Calle 9 Esquina Calle 3 Bo. Río Lajas, Dorado PR.	N 18 23 50.00 W 66 15 41.08
Guaynabo	Emergency Warehouse	Carr. 835 Km. 1.0 Bo. Mamey	N 18 19' 51.73" W 66 06 17.25"
Guaynabo	Cancha Mario Jiménez	Carr. 837 Esquina Calle Cecilio Urbina	N 18 21 25.12" W 66 06 56.04
Bayamón	Estadio Juan Ramón Lubriel	PR-2 Int. 174	N 18 23 37.20 W 66 09 02.29
Bayamón	Cancha Bajo Techo Pepín Cestero	Ave. Betances Urb. Hermanos Dávila	N 18 23 19.38 W 66 10 13.66
Toa Alta	Cancha Bajo Techo Lauro Dávila	Carr. Ramal 165 Entrada al Pueblo	N 18 23 28.03 W 66 15 01.40
Toa Alta	Cancha Bajo Techo Augusto Agosto Calderón	Urb. Toa Alta Heights	N 18 36 40.1 W 66 21 12.2
Toa Alta	Cancha Bajo Techo Wilfredo Berenguer Calderón	Carr. 165 Bo. Quebrada Cruz	N 18 34 58.9 W 66 27 06.6
Cataño	Coliseo Cosme Beltia Salamo	Calle Olivo, Cataño	N 18 26 30.33 W 66 07 26.45
Cataño	Cancha Bajo Techo La Puntilla	Ave. Barbosa frente a Rest. El Faro	N 18 26 37.44 W 66 06 48.66
Zone II			
Arecibo	Coliseo Municipal Manuel "Petaca" Iguina	Ave. Industrial Sector Victor Rojas II Arecibo, PR	N 18 27 27.42 W 66 44 59.90
Arecibo	Polideportivo Hermanos Birriel Olmo	Calle C Int. Calle D Sector Rodríguez Olmo	N 18 27 21.07 W 66 43 31.83
Arecibo	Alcaldía Sabana Hoyos	Carr. 639 Km. 5.2 int. Carr. 628 Bo. Sabana Hoyos	N 18 23 21.72 W 66 36 10.69
Lares	Coliseo Félix Méndez	Ave. Los Patriotas Carr. 111 Km. 1.9	N 18 28 99.50 W 66 88 23.29
Lares	Centro Comunal Castañer	Bo. Bartolo Carr. 399 Sector Castañer	N 18 17 75.30

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			W 66 83 29.30
Utuaado	Estadio Ramón Cabañas	Ave. Rolando Cabañas Urb. Jesús M. Lago	N 18 16 482 W 66 42 50.20
Utuaado	Cancha Bajo Techo Juan Santiago	Carr. 111 Int. 602 Bo. Ángeles Utuaado	N 18 17 22.34 W 066 48 08.90
Utuaado	Cancha Bajo Techo Bo. Mameyes	Carr. 140 Bo. Mameyes Km. 38.5	N 18 17 57.00 W 66 35 46.45
Utuaado	Cancha Bajo Techo Ángel L. Cuevas	Carr. 111 Int. 621	N 18 17 06 W 66 45 05
Barceloneta	Complejo Deportivo Rafael Meléndez	Carr. 681 Bo. Pueblo	N 18 27 37.00 W 66 32 32.64
Florida	Estadio Municipal Rafael "Fello" Marrero	Carr. 140 Ramal 6642 Ave. Heriberto González Vélez	N 18 21 50.47 W 66 33 12.04
Manatí	Acrópolis Deportivo	Carr. 149 Int. 670	N 18 25 25.89 W 66 28 17.38
Manatí	Plaza Atenas	PR-2 Km. 50.2	N 18 25 47.42 W 66 29 47.12
Manatí	Plaza Monte Real	PR-2 Campo Alegre	N 18 26 24.70 W 66 27 28.19
Camuy	Parque Las Cavernas Río Camuy	PR- 129 Km. 18.9 Hacia Lares	N 18 20 48.09 W 66 49 41.49
Camuy	Área Recreativa Peñón Brusi	Carr. 485	N 18 29 19.27 W 66 51 20.08
Vega Baja	Estacionamiento Cancha Moisés Navedo	Ave. Naranjal Urb. Monte Carlos	N 18 26 57.33 W 66 23 30.02
Vega Baja	Gimnasio Municipal	Carr. 687 Torguero	N 18 27 21.33 W 66 25 16.16
Vega Alta	Cancha Bajo Techo Víctor Marchand	Complejo Deportivo Las Colinas Urb. Las Colinas	N 18 24.53 W 66 19.35
Vega Alta	Centro Comunal Bo. Sabana Hoyos	Carr. 690 Bo. Sabana	N 18 24.46 W 66 19.48
Zone III			
Aguadilla	Estacionamiento Las Cascadas	Carr. 2 Km. 126.3 Bo. Caimital Bajo	N 18 26 332 W 67 08 822
Aguada	Estadio Municipal Guillermo Hernández	Ave. Nativo Alers Desvío Sur	N 18 22 42 W 67 11 41
Aguada	Cancha Bajo Techo All-Star	Carr. 115 Bo. Asomante Salida del Pueblo	N 18 23 1

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			W 67 11 00
Isabela	Coliseo José "Buga" Abreu	Ave. Agustín Int. Ramos Calero	N 18 29 22.63 W 67 01 28.58
Isabela	Picadero Municipal	Calle Casimira Castro # 115 Bo. Bejucos	N 18 29 28.99 W 67 02 21.23
Moca	Coliseo Juan Sánchez Acevedo	Carr. 110 Km. 12.2 Int. Ave. San Carlos	N 18 23.510 W 67 06.588
Moca	Centro Cultural de Moca	Ave. Mario Medina	N 18 23.510 W 67 23.485
Moca	Centro Comunal Bo. Cerro Gordo	Carr. 495 Km. 1.7 Bo. Cerro Gordo	N 18 20.686 W 67 04.451
San Sebastian	Coliseo Luis Aymar Cardona	Carr. 111 Km. 6.0	N 18 20 36.10 W 66 59 31.58
San Sebastian	Coliseo Luis Muñoz Marín	Calle Emerito Estrada Rivera	
Quebradillas	Coliseo Ramond Dalmau	Carr. 2 Km. 99.8 Bo. Cacao	N 18 46 W 66 09
Quebradillas	Cancha Pedro Hernández	Calle Coliseo Estacionamiento Cancha Pedro Hernández	N 18 2.69 W 66 56.169
Quebradillas	Centro Comunal	Bo. Cacao, Sector Los Chivas Carr. 447	N 18 27 312 W 66 57 226
Añasco	Parque El Sueño Del Niño	Carr. 109 Km. 1.7 Sector Pozo Hondo	N 18 16 30.882 W 67 09 06.132
Rincón	Complejo Deportivo	Carr. 115 Km. 10.8	N 18 19.099 W 67 14.317
Rincón	Centro de Envejecientes Playeros Edad De Oro	Calle Nueva Final	N 18 20.146 W 67 15.021
Zone IV			
Mayagüez	Parque Hermes José Acevedo Díaz	Sector Manantiales Interior	N 18 11 36.93 W 67 07 59.16
Lajas	Shopping Center de Lajas	Calle 1883	N 18 2 37.83 W 67 3 37.79
Lajas	Parque De Pelota José "Joe" Barbosa	65 Infantería Al Final	N 18 02 33.65 W 67 03 25.61
San German	Coliseo Arquelito Torres Ramírez	Ave. Los Atlético Carr 102 Km. 33.0	N 18 04 657 W 67 01 827
San German	Agropecuário Ángel Castro Pérez	Carr. 102 Km. 26.1	N 18 05 161

			W 67 05 387
Sabana Grande	Policlinica Bernice Guerra	Carr. 102 Km. 39.0	N 18 05 117 W 66 58.702
Sabana Grande	Parque Rafael D. Milian	Ave. Quillinchini	
Las Marias	Centro Comunal Anones	Carr. 4406	N 18 13 12.7 W 67 02 53
Hormigueros	Antiguo Hormigueros Auto Parts	Calle Comercio Urb. Verdum II	N 18 08 W 67 07
Hormigueros	Complejo Deportivo Meliano Bobé// Coliseo Wilfredo Toro	Carr. 345 Km. 0.7	N 18 137.57 W 67 120.68
Maricao	Coliseo Municipal Área Recreativa Alfonso Casta Fornes	Calle Francisco Mariano Quiñónez Esq. Pachin Marin	N. 18° 086 W. 66° 98075
Maricao	Cancha Bajo Techo Indiera Baja	Carr. 426 Km. 0.1 Bo. Indiera Baja	N 18 09 40.99 W 66 53 57.22
Cabo Rojo	Cancha Rebecka Colberg	Carr. 103 Entrenado por el Terminal	N 18 04 792 W 67 08.748
Zone V			
Ponce	Polideportivo Frankie Colon	Urb. Los Caobos Cancha Bajo Techo	N 17 59.934 W 66 35.226
Ponce	Cancha Bajo Techo Salvador Dijols	Ave. Hostos Al lado del Parque de Bomberos Playa Ponce	
Juana Díaz	Coliseo Dolores "Toyita" Martínez	Carr. PR-510	N. 18 02 46.0 W 66 29 36.8
Juana Díaz	Cancha Bajo Techo Aguilita	Parcelas Viejas Calle Del Parque Int. Calle 3	N 18 01 22.2 W 66 .32 05.4
Juana Díaz	Cancha Bajo Techo Jacaguas	Carr. PR-580 Parcelas Viejas	N 18 03 12.4 W 66 21 48.0
Juana Díaz	Cancha Bajo Techo Singapur	Carr. PR 1 Bo. Capitanejo	N 17 59 42.6 W 66 29.54.5
Adjuntas	Complejo Recreativo Guarionex	Sector Desvío Ramal 5516	N 18 102 80 W 66 43 728
Adjuntas	Coliseo Rafael Llull Pérez	Carr. 123 Sector Desvío Ramal 5516 Bo. Garzas	N 18 10 280 W 66 49 728
Guanica	Empresas Turísticas	Carr. 333	N 17 58.51 W 66 54.33
Jayuya	Cancha Bajo Techo La Pica	Carr. PR-140	N 18 10 06.38

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			W 66 39 05.85
Yauco	Coliseo Raúl "Pipote" Oliveras	Carr. 128 Ave. Fidel Vélez	N 18 01 970 W 66 51 516
Yauco	Centro de Usos Múltiples Erving A. Martínez Quiñones	Parte Posterior Antigua Loma De Feco Bo. Almacigo Alto	N 18 030.908 W
Yauco	Esc. Río Prieto Centro de Usos Múltiples	Carr. 324 Sector Carrizales Cerca del Cuartel Municipal	N 18 02 390 W 66 50 745
Peñuelas	Complejo Deportivo Luis Muños Marín	Carr. 385 Km. 0.1	
Villalba	Plaza de Festivales	Carr. 150 Km. 1	N 18 01 16 W 66 29 46
Villalba	Centro De Envejecientes	Ave. Pedro Albizu Campo	N 18 07 19 W 66 29 48
Villalba	Centro de Usos Múltiples	Ave. Pedro Albizu Campo Bo. Tierra Santa	N 18 07 43 W 66 29 58
Guayanilla	Complejo Deportivo	Carr. 127 Int. Municipal Bda. Guaydia	N 18 02.31 W 66 48.05
Guayanilla	Parque Indios	Carr. 335 Km. 9.5	N 17 39.67 W 66 48.81
Guayanilla	Parque de Macana	Carr. 132 Parcelas	N 18 03.37 W 66 46.54
Zone VI			
Orocovis	Coliseo Jesús M. "Tito" Colón Collazo	B. Barros Carr. 155 Km. 30.2	N 18 14.29 W 66 23.57
Barranquitas	Área Recreativa y Cancha Bajo Techo Juan Carlos Berrios	Carr. Ramal 152 Km. 3.0 Int.	N 18.1191 W 66.1838
Morovis	Coliseo José "Pepe" Huyke	Carr. 155 Km. 48.3 Entrada Ave. Buena Vista	N 18 19.739 W 66 24.481
Ciales	Polideportivo Samuel Rosario	Carr. 149 Int. 145	N 18 20 34.03 W 66 28 07.13
Comerio	Pabellón De Servicios	Bo. Vega Redonda Bda. Pasarell Carr. 778 Km. 1.0	N 18 13 33.02 W 66 13 22.55
Comerio	Multiusos Manuel Reyes	Bo. Palomas Carr. 779 Km. 7.0	N 18 13 54.92 W 66 15 28.27
Comerio	Estacionamiento Estadio Carlos Bonet	El Pueblo, (Después del Puente 740)	N 18 12 55.22 W 66 13 38.97
Naranjito	Área Recreativa Ramón Elías Ortiz	Carr. Marcelino Cruz Cosme	N 18 18 05.97

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			W 66 15 04.12
Corozal	Coliseo Carmen Figueroa	Carr. 891 Corozal	N 18 20 27.46 W 66 19 16.90
Corozal	Centro Comunal Bo. Maná	Carr. 802 Bo. Palmarito	N W
Corozal	Centro Comunal	Carr. 803 Bo. Palo Blancos	N W
ZONE VII			
Guayama	Centro de Bellas Artes	Calle Mc Arthur Carr. 3	
Guayama	Escuela De Bellas Artes	Urb. Hacienda Complejo Deportivo (Parte Posterior)	
Coamo	Cancha Bajo Techo Edwin "Puruco" Nolasco	Carr. 14 Blvd. Piel Canela	N 18 04 07.21 W 66 21 50.89
Santa Isabel	Centro de Usos Múltiples Francisco "Pancho" Robledo	Ave. Padre Ferrer	N 18 04.143 W 66 21.907
Salinas	Cancha Ángel "Cholo" Espada	Carr.1 Km.98.5	N 17 59.053 W 66 17.292
Arroyo	Coliseo Max Sánchez	Carr. 3 Int. 178	N 17 97 87.43 W 66 069.599
Arroyo	Centro de Convenciones	Carr. 3 Km. 131.0	N 17 97 607 W 66 06 35.27
Arroyo	Complejo Deportivo José Vicente Rivera Borrás	Jardines de Arroyo Calle X	N 17 97 49.16 W 66 065.319
Patillas	Estadio Municipal Angelita Lind	Carr. 3 Int. Calle Los Colegios	N 18 00.358 W 66 01.055
Patillas	Iglesia Adventista	Carr. 757 (Entrada Jardines Del Mamey)	N 18 00.500 W 18 00.450
Patillas	Parroquia Inmaculado Corazón De Maria	Calle Cristo # 1	N 18 00.365 W 66.00.829
ZONE VIII			
Humacao	Cancha Emilio E. Huyke	Calle Libertad Final	N 18 149.01 W 65 83 556
Yabucoa	Cancha Bajo Techo	Carr. 901 Frente a Urb. Méndez	N 18 12.745 W 65 52.400
Yabucoa	Parque Félix Millán	Carr. 901	N 18 02.701 W 65 52.290

Naguabo	Cancha Bajo Techo Benigno Ramos	Carr. 31 Esq. 971	N 18 12 44.08 W 65 43 46.96
San Lorenzo	Caguítas Colon	Carr. 183 (Detrás de San Lorenzo Mall)	N 18 11,160 W 65 5
San Lorenzo	Emanuel Gómez Norsa		N 18 11,16 W 65 58,13
San Lorenzo	Parque de Pelota Bo. Espino	Carr. 181 Km.13 Las Parcelas	N 18 01,1 W 65.59,2
Las Piedras	Plaza del Mercado	Carr. 198 Calle José C. Barbosa # 183	X 259 447.21 Y 238 753.85
Maunabo	Estacionamiento Pista Atlética	Carr. 901	N 18 00 04.48 W 65 53 45.54
Juncos	Estacionamiento Parque Mariano "Mini" Meaux	Paseo Escute Frente al Cuartel Municipal	X 253776.874 Y 244193.817
ZONE IX			
Carolina	Estadio Roberto Clemente Walker	PR-3	N 18 22 46.00 W 65 56 53.35
Carolina	Centro de Servicios Municipales	Calle Rodríguez Emma Ave. Isla Verde	N 18 26 31.05 W 66 1 30.05
Carolina	Centro de Servicios Municipales Barrazas	Carr. 853 Bo. Barrazas	N 18 18 41.1 W 65 56 19.65
Trujillo Alto	Complejo de Seguridad Publica	Carr. 846 Bo. Las Cuevas	N 18 23 01.00 W 66 01 24.20
Río Grande	Parque Ovidio De Jesús	Carr. PR-3 Marginal Km. 23 Bo. Cienaga Baja	N 18 22.608 W 65 50.137
Río Grande	Cancha Balonmano Néstor Milete	Carr. PR-3 Marginal Km. 23 Bo. Cienaga Baja	N 18 22.609 W 65 50.137
Canóvanas	Cancha Carlos Miguel Mangual	Carr 3 Frente a Plaza Noreste	N 18 22 37.73 W 65 52 20.19
Canóvanas	Centro de Envejecientes	Carr. 186 Bo. Cubuy .Sector Parcelas Benítez	N1816 19.77 W 65 52 46.26
Canóvanas	Cancha Bajo Techo San Isidro	Calle 1 Int. Calle 6 Bo. San Isidro	N 18 23 48.44 W 65 53 6.45
Loíza	Centro Comunal Loíza Valley	Calle Amapola Urb. Loíza Valley	N 18 22 25.49 W 65 54 50.03
Loíza	Estadio Miguel Fuentes Pinet	Carr. 188 Frente al Cuartel Estatal	N 18 27 22 W 65 59 05

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Loíza	Centro Comunal Villas de Loíza	Calle 23 Villas de Loíza	N 18 23 02 W 65 52 13
ZONE X			
Gurabo	Estadio Evaristo Roldan	Carr. 941 salida hacia Bo. Jaguas	N 18 15 30.4 W 65 58 30.0
Gurabo	Coliseo Fernando (Rube) Hernández	Bo. Celada Carr. 181	N 18 15 48.5 W 65 57 57.6
Gurabo	Esc. Matías González García	Calle Andrés Aruz Rivera	N 18 15 17.6 W 65 58 12.5
Albonito	Parque José Ramón Marrero	Carr. 724 Bda. San Luis	N 18 08.413 W 66 16.268
Albonito	Parque Enrique Cintrón	Bo. Pasto	N 18 07.071 W 66 15.464
Aibonito	Cancha Bajo Techo Ramón Aponte	Carr. 722 Bo. Rabanal	N 18 08.175 W 66 15.118
Cayey	Estadio Ángel L. Correa	Ave. Antonio R. Barceló (Lado Pista UPR Cayey)	N 18 07 02.12 W 66 09 27.63
Cayey	Estadio Pedro Montañéz y Estacionamiento Municipal	Ave. José De Diego PR-14 Interior	N 18 06 58.05 W 66 10 08.65
Aguas Buenas	Coliseo Samuel Rodríguez	Bo. Mulas	N 18 15 25.74 W 66 06 27.21
Aguas Buenas	Casa de la Juventud	Urb. San Antonio	
Aguas Buenas	Esc. Rafael Nicolau	Carr. 156	
Caguas	Complejo Deportivo de Caguas Ángel O. Berrios	156 Int. Calle Del Parque y Calle C	N 18 14.413 W 66 03.282
Caguas	Centro Comunal San Antonio	Carr. 175 Int. Carr. 739	N 18 18.013 W 66 02.622
Caguas	Centro Comunal Borinquen	PR-1 Altura Parcela Borinquen, Calle Esperanza	N 18 12.376 W 66 03.132
Cidra	Hacienda Sabanera	Carr. 173 Km. 3.0	N 18 11 32.89 W 66 08 37.94
Cidra	Cancha Bajo Techo Juanito Cabello	Carr. 173 Km. 0.4	N 18 11 00.20 W 66 09 37.30
ZONE XI			
Fajardo	Coliseo Tomas Dones	Carr. 976 Bo. Florencio Km. 1.4	N 18 18 55.12

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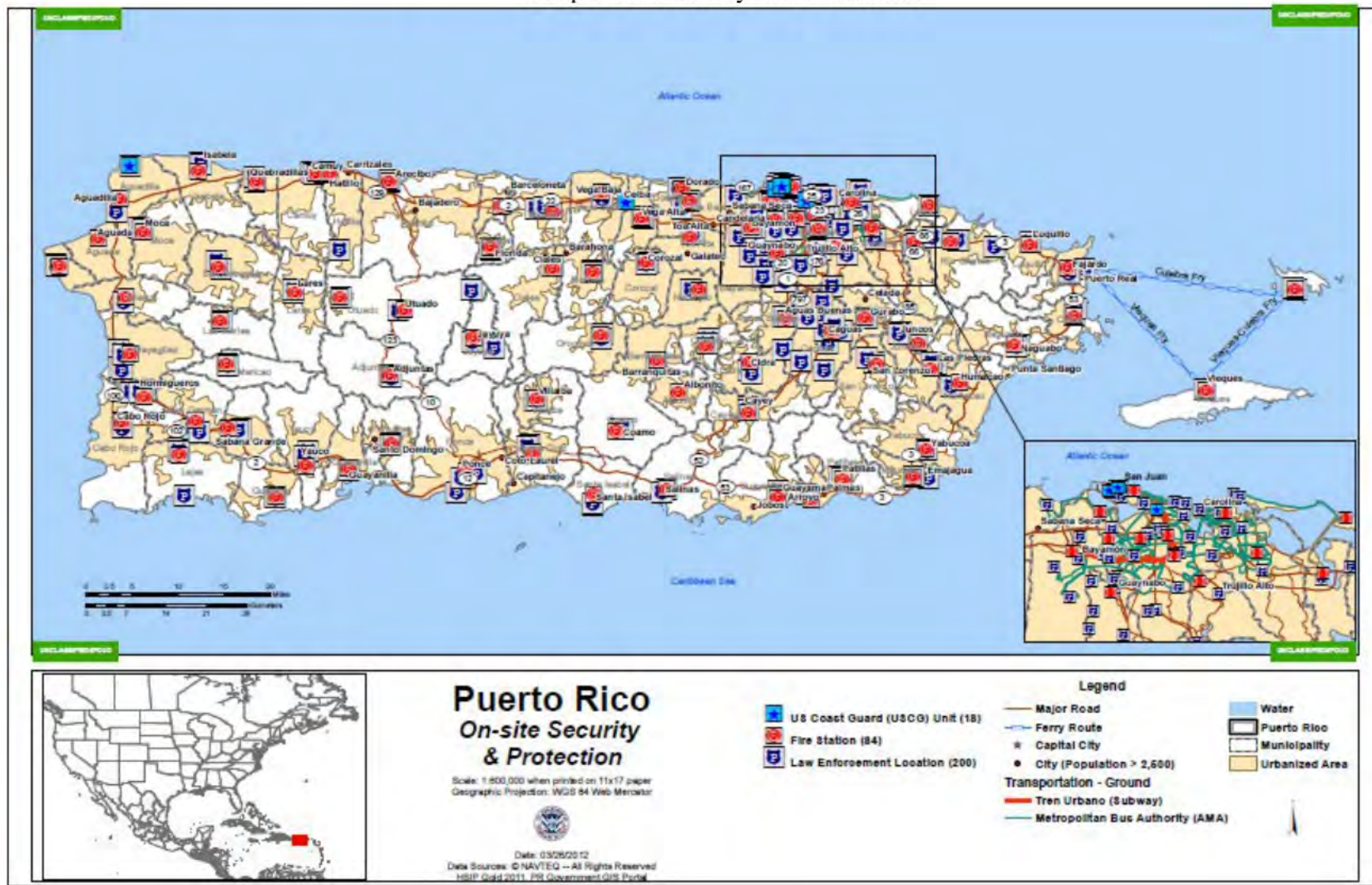
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			W 65 39 53.25
Luquillo	Parque De Pelota Tato Torrens	Urb. Brisas Del Mar	N 18 22 31.84 W 65 43 15.10
Luquillo	Cancha Bajo Techo Ismael Benabe	PR-992	N 18 22 05.48 W 65 43 14.15
Ceiba	Cancha Félix Pedraza	Calle Carlos Carlo Figueroa	N 18 15 38.28 W 65 38 44.480
Vieques	Coliseo Municipal Luis González Camarero	Calle Benítez Guzmán	N 18 09 02.46 W 65 26 33.10
Vieques	Centro de Usos Múltiples	Calle Antonio G. Mellado (frente a la Plaza Publica)	N 18 08 57.47 W 65 26 28.66
Culebra	Cancha Bajo Techo Julián Ayala	Bo. Clark, Calle Manuel Vázquez	N 18 18 35.54 W 65 18 18.91

MASS SEARCH AND RESCUE OPERATIONS

8.0

Graph 9A: Security and Protection



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PUERTO RICO CATASTROPHIC PLANNING ANNEX
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Table 9A: Law Enforcement Locations Puerto Rico Data

Law Enforcement Location (200)				
NAME	ADDRESS	CITY	LONGITUDE	LATITUDE
POLICIA MUNICIPAL DE COROZAL	CARRETERA 159	COROZAL	-66.318118	18.343594
POLICIA DE MUNICIPAL DE GUANICA	CALLE 13 DE MARZO 53	GUANICA	-66.905185	17.971643
CUARTEL DE LA POLICIA - COAMO	CARRETERA 150	COAMO	-66.362181	18.080619
CUARTEL DE LA POLICIA - MARICAO	CARRETERA 120	MARICAO	-66.980836	18.183179
POLICIA MUNICIPAL DE ISABELA	CALLE JOSE A VARGAS	ISABELA	-67.024174	18.500003
CUARTEL DE LA POLICIA - ISLA VERDE	CALLE RODRIGUEZ EMA	CAROLINA	-65.981681	18.423708
DESTACAMENTO DE LA POLICIA - BAYANYA/HATILLO	CARRETERA 129	HATILLO	-66.804026	18.363651
DIVISION MARITIMA FURA	CARRETERA 187	LOIZA	-65.99012	18.458136
POLICIA MUNICIPAL DE VILLALBA	CARRETERA 150 Y CARRETERA 589	VILLALBA	-66.497271	18.125736
UNITED STATES CUSTOMS AND BORDER PROTECTION - PORT OF ENTRY - PONCE	63 CALLE BONAIRE	PONCE	-66.619932	17.979812
POLICIA MUNICIPAL DE CIALES	CARRETERA 149	CIALES	-66.467922	18.337678
POLICIA DE MUNICIPAL DE JAYUYA	CARRETERA 144	JAYUYA	-66.561119	18.209034
ZONA TURISTICA AREA CAROLINA	CALLE RODRIGUEZ	CAROLINA	-66.024562	18.441817
UNITED STATES CUSTOMS AND BORDER PROTECTION - PORT OF ENTRY - MAYAGUEZ	31 AVENIDA GONZALEZ CLEMENTE	MAYAGUEZ	-67.151393	18.206458
UNITED STATES CUSTOMS AND BORDER PROTECTION - PORT OF ENTRY - LUIS MUNOZ MARIN INTERNATIONAL AIRPORT	EXPRESO ROMAN BALDORITY DE CASTRO	ISLA VERDE	-66.00369	18.439043
POLICIA MUNICIPAL DE CAGUAS - BAIROA	CALLE LOS CRIOLLOS	CAGUAS	-66.037202	18.251426
POLICIA MUNICIPAL DE MANATI	CARRETERA 2	MANATI	-66.495137	18.429503
BUREAU OF ALCOHOL TOBACCO FIREARMS AND EXPLOSIVES - MAYAGUEZ SATELLITE OFFICE	475 AVENIDA HOSTOS	MAYAGUEZ	-67.15085	18.178612
UNITED STATES CUSTOMS AND BORDER PROTECTION - PORT OF ENTRY - FAJARDO	500 CALLE UNION	PUERTO REAL	-65.63156	18.333655
CUARTEL DE LA POLICIA - CABO ROJO	CALLE JOSE DE DIEGO 3	CABO ROJO	-67.145697	18.089919
CUARTEL DE LA POLICIA - ADJUNTAS	CALLE RODULFO GONZALEZ 83	ADJUNTAS	-66.724897	18.166463
CUARTEL DE POLICIA ESTATAL - JUANA DIAZ	CALLE MUNOZ RIVERA	JUANA DIAZ	-66.50455	18.054257
POLICIA MUNICIPAL DE RIO GRANDE	CARRETERA 187	RIO GRANDE	-65.828524	18.378522
POLICIA MUNICIPAL DE JUANA DIAZ	CALLE COMERCIO Y CALLE QUENEPAS	JUANA DIAZ	-66.508353	18.052752
POLICIA MUNICIPAL DE DORADO	CARRETERA 693 Y CARRETERA 694	DORADO	-66.265478	18.429071
POLICIA MUNICIPAL DE GUAYNABO - CUARTEL DE SANTA ROSA 3	CARRETERA 833	GUAYNABO	-66.135688	18.368812
POLICIA MUNICIPAL DE COAMO	CALLE BALDORIOTY 12	COAMO	-66.358311	18.08101

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FOR OFFICIAL USE ONLY (FOUO)PUERTO RICO CATASTROPHIC PLANNING ANNEX
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Law Enforcement Location (200)				
NAME	ADDRESS	CITY	LONGITUDE	LATITUDE
UNITED STATES CUSTOMS AND BORDER PROTECTION - SAN JUAN PUERTO RICO PARCEL CONTROL	EXPRESO ROMAN BALDORITY DE CASTRO	ISLA VERDE	-66.003689	18.439044
UNITED STATES MARSHALS SERVICE - HATO REY DISTRICT HEADQUARTERS	150 CALLE CARLOS F CHARDON	SAN JUAN	-66.064282	18.423222
UNITED STATES FISH AND WILDLIFE SERVICE - OFFICE OF LAW ENFORCEMENT - SAN JUAN	651 FEDERAL DRIVE	GUAYNABO	-66.114512	18.423579
POLICIA MUNICIPAL DE GUAYNABO - CENTRO DE MANDO	EXPRESO RAFAEL MARTINEZ NADAL Y CALLE A	GUAYNABO	-66.109535	18.373882
CUARTEL DE LA POLICIA - LAJAS/PARQUERA	CARRETERA 304 Y CALLE 5	LAJAS	-67.048298	17.974104
POLICIA DE MUNICIPAL DE GURABO	CALLE EUGENIO S LOPEZ Y CALLE SANTIAGO	GURABO	-65.972908	18.254985
BUREAU OF ALCOHOL TOBACCO FIREARMS AND EXPLOSIVES - PUERTO RICO GROUP I - HIGH INTENSITY DRUG TRAFFICKING AREAS	350 CALLE CARLOS F CHARDON	SAN JUAN	-66.068018	18.423271
UNITED STATES CUSTOMS AND BORDER PROTECTION - PORT OF ENTRY - AGUADILLA	BROMON DRIVE	AGUADILLA	-67.132849	18.496428
NATIONAL PARK SERVICE - SAN JUAN NATIONAL HISTORIC SITE RANGER STATION	501 CALLE NORZAGARAY	SAN JUAN	-66.11165	18.467184
CUARTEL DE LA POLICIA - HATILLO	CARRETERA 119	HATILLO	-66.82737	18.486504
POLICIA MUNICIPAL DE GUAYAMA	CALLE ENRIQUE GONZALEZ Y CALLE ASHFORD	GUAYAMA	-66.112771	17.983471
CUARTEL DE LA POLICIA - CEIBA	AVENIDA LAURO PINERO	CEIBA	-65.6478	18.261037
CUARTEL DE LA POLICIA - AGUADILLA	AVENIDA VICTORIA 463	AGUADILLA	-67.15542	18.42314
CUARTEL DE LA POLICIA - ARECIBO	AVENIDA HOSTOS 300	ARECIBO	-66.725706	18.470309
CUARTEL DE LA POLICIA - BARRANQUITAS	CARRETERA 156 Y CALLE VILLA UNIVERSITARIA	BARRANQUITAS	-66.306143	18.184949
CUARTEL DE LA POLICIA - ANASCO	CALLE 65 INFANTERIA	ANASCO	-67.143993	18.280529
CUARTEL DE LA POLICIA - ARROYO	CARRETERA 178	ARROYO	-66.069716	17.977284
CUARTEL DE LA POLICIA - BAYAMON SUR	CARRETERA 831	BAYAMON	-66.157892	18.353762
CUARTEL DE LA POLICIA - BAYAMON OESTE	CALLE D 10	BAYAMON	-66.17391	18.384401
CUARTEL DE LA POLICIA - BAYAMON NORTE	CARRETERA 2	BAYAMON	-66.148843	18.391864
NUEVA COMANDANCIA DE LA POLICIA - CAGUAS	AVENIDA JOSE MERCADO	CAGUAS	-66.038798	18.230542
COMANDANCIA DE LA POLICIA - CAGUAS	AVENIDA RAFAEL CORDERO Y CARRETERA 189	CAGUAS	-66.029407	18.236176
CUARTEL DE LA POLICIA - CAMUY	CALLE AMADOR BRALL	CAMUY	-66.847789	18.486898
CUARTEL DE LA POLICIA - CANOVANAS	CALLE CORCHADO 104	CANOVANAS	-65.899044	18.37791
COMANDANCIA DEL AREA DE CAROLINA / CUARTEL DE LA POLICIA - CAROLINA SUR	CALLE IGNACIO ARZUAGA 214 OESTE	CAROLINA	-65.960925	18.379835
CUARTEL DE LA POLICIA - CAROLINA OESTE	AVENIDA ITURREGUI	CAROLINA	-65.998542	18.419157

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Law Enforcement Location (200)				
NAME	ADDRESS	CITY	LONGITUDE	LATITUDE
CUARTEL DE LA POLICIA - GUANICA	CALLE 13 DE MARZO 53	GUANICA	-66.905184	17.971642
UNITED STATES CUSTOMS AND BORDER PROTECTION - SAN JUAN FIELD OPERATIONS OFFICE	1 CALLE LA PUNTILLA	SAN JUAN	-66.115542	18.462802
UNITED STATES CUSTOMS AND BORDER PROTECTION - SERVICE PORT - SAN JUAN (AREA PORT)	1 CALLE LA PUNTILLA	SAN JUAN	-66.115542	18.462801
POLICIA MUNICIPAL DE SABANA GRANDE	CALLE SAN ISIDRO	SABANA GRANDE	-66.958356	18.079236
CUARTEL DE LA POLICIA - HORMIGUEROS	CARRETERA 103	HORMIGUEROS	-67.132289	18.138066
CUARTEL DE LA POLICIA - CIDRA	CALLE MUNOZ RIVERA 46	CIDRA	-66.160815	18.172545
CUARTEL DE LA UNIDAD MONTADA PINONES	CARRETERA 187	LOIZA	-65.983652	18.45548
PRECINTO 132 - GUAYNABO	CALLE ARBOLOTE 2	GUAYNABO	-66.112068	18.361811
POLICIA MUNICIPAL DE GUAYNABO - GUAYNABO NORTE	CARRETERA 833	GUAYNABO	-66.133488	18.337926
PRECINTO 232 - JUAN DOMINGO	CALLE EL BUEN SAMARITANO 2	GUAYNABO	-66.122709	18.397376
CUARTEL DE LA POLICIA ESTATAL - AGUAS BUENAS	CALLE SARGENTO RAMOS L REYES	AGUAS BUENAS	-66.106921	18.257618
POLICIA MUNICIPAL DE CABO ROJO	CARRETERA 312	CABO ROJO	-67.145727	18.081639
CUARTEL DE LA POLICIA - DORADO	CARRETERA 693	DORADO	-66.270593	18.461625
POLICIA DE MUNICIPAL DE RINCON	CARRETERA 115	RINCON	-67.25068	18.341455
CUARTEL DE LA POLICIA ESTATAL - SABANA GRANDE	CALLE FRANCISCO MARIANO QUINON 11	SABANA GRANDE	-66.963779	18.078355
POLICIA MUNICIPAL DE OROCOVIS	CARRETERA 568	OROCOVIS	-66.389779	18.229516
CUARTEL DE LA POLICIA ESTATAL - TRUJILLO	CALLE MUNOZ RIVERA 2	TRUJILLO ALTO	-66.005232	18.356537
DESTACAMENTO DE POLICIA MAMEYES	CARRETERA 140	UTUADO	-66.596471	18.29952
CUARTEL DE LA POLICIA ESTATAL - VEGA ALTA	CALLE LUIS MUNOZ RIVERA	VEGA ALTA	-66.324704	18.41253
CUARTEL DE LA POLICIA - VIEQUES	CARRETERA 200	VIEQUES	-65.442072	18.14352
POLICIA DE MUNICIPAL DE MOCA	CARRETERA 111	MOCA	-67.120184	18.39843
CUARTEL DE LA POLICIA ESTATAL - MOROVIS	CARRETERA 155 61	MOROVIS	-66.406297	18.329585
POLICIA MUNICIPAL DE NAGUABO	CALLE GOYCO 20	NAGUABO	-65.734764	18.212537
POLICIA MUNICIPAL DE SAN SEBASTIAN	CARRETERA 111 Y CARRETERA 446	SAN SEBASTIAN	-66.99831	18.346374
POLICIA MUNICIPAL DE TOA ALTA	CALLE MUNOZ RIVERA 83	TOA ALTA	-66.247305	18.388268
CUARTEL DE LA POLICIA ESTATAL - VILLALBA	CALLE MUNOZ RIVERA 100	VILLALBA	-66.493726	18.125536
DEPARTAMENTO DE LA POLICIA DE SAN JUAN - COMANDANCIA	CALLE JOSE DE DIEGO	SAN JUAN	-66.044924	18.398617
POLICIA MUNICIPAL DE VEGA BAJA	CALLE BETANCES 100	VEGA BAJA	-66.390174	18.444836
CUARTEL DE LA POLICIA ESTATAL - SANTA ISABEL	CALLE CELIS AGUILERA 90	SANTA ISABEL	-66.405276	17.960807
POLICIA MUNICIPAL DE CAGUAS - SAN ANTONIO	CARRETERA 175	CAGUAS	-66.028237	18.305813
COMANDANCIA DE AREA DE LA POLICIA ESTATAL -	CALLE ORQUIDEA	PONCE	-66.589099	18.010297

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Law Enforcement Location (200)				
NAME	ADDRESS	CITY	LONGITUDE	LATITUDE
PONCE				
COMANDANCIA ESTATAL DE AREA - MAYAGUEZ	AVENIDA LOS CORAZONES	MAYAGUEZ	-67.146242	18.174193
POLICIA MUNICIPAL DE SALINAS	CARRETERA 1	SALINAS	-66.289698	17.98376
POLICIA MUNICIPAL DE ADJUNTAS	CALLE SAN JOAQUIN 11	ADJUNTAS	-66.722868	18.161967
CUARTEL DE LA POLICIA - JAYUYA	CARRETERA 532	JAYUYA	-66.594993	18.21924
CUARTEL DE LA POLICIA - COROZAL	CARRETERA 891	COROZAL	-66.321192	18.341661
POLICIA MUNICIPAL DE COMERIO	CARRETERA 778	COMERIO	-66.222917	18.223011
POLICIA MUNICIPAL DE MARICAO	CALLE CORCHADO	MARICAO	-66.9799	18.180532
CUARTEL DE LA POLICIA - GUAYANILLA	CALLE LUIS MUNOZ RIVERA	GUAYANILLA	-66.789228	18.01592
CUARTEL DE LA POLICIA - GURABO	CALLE EUGENIO S LOPEZ	GURABO	-65.974503	18.255601
CUARTEL DE LA POLICIA ESTATAL - TOA BAJA	CALLE MUNOZ RIVERA 9	TOA BAJA	-66.253511	18.440039
FUERZA UNIDAD DE RAPIDA ACCION AERIAL DE SAN JUAN	CALLE LINDBERGH FINAL	SAN JUAN	-66.10473	18.454701
CUARTEL DE LA POLICIA ESTATAL - RIO GRANDE	CALLE DEL CARMEN FINAL	RIO GRANDE	-65.830851	18.379095
CUARTEL DE LA POLICIA ESTATAL - OROCOVIS	CALLE HOSPITAL FINAL	OROCOVIS	-66.392006	18.223813
CUARTEL DE LA POLICIA ESTATAL - SALINAS	CALLE LUIS MUNOZ RIVERA	SALINAS	-66.297022	17.980315
CUARTEL DE LA POLICIA ESTATAL - MOCA	CALLE BLANCA E CHICO	MOCA	-67.11329	18.394569
CUARTEL DE LA POLICIA - LAJAS	CALLE FERROCARRIL	LAJAS	-67.057835	18.049763
POLICIA DE MUNICIPAL DE LAJAS	CALLE 65 DE INFANTERIA	LAJAS	-67.057581	18.045983
CUARTEL DE LA POLICIA ESTATAL - LAS MARIAS	AVENIDA MATIAS BRUDMAN	LAS MARIAS	-66.988838	18.250834
COMANDANCIA DE AREA DE LA POLICIA CINCO	AVENIDA JOSE M TORRES	GUAYAMA	-66.11508	17.972301
DISTRITO - GUAYAMA				
CUARTEL DE LA POLICIA ESTATAL	CALLE SAN JOSE	LARES	-66.877344	18.296431
DISTRITO DE LA POLICIA - CULEBRA	CARRETERA 250	CULEBRA	-65.297289	18.30175
POLICIA MUNICIPAL DE GUAYNABO - CUARTEL	CALLE A	GUAYNABO	-66.111838	18.371231
DEL PUEBLO DE GUAYNABO				
POLICIA MUNICIPAL DE YAUCO	CARRETERA 3372	YAUCO	-66.853868	18.04445
POLICIA MUNICIPAL DE PENUELAS	CALLE AMALIA MARIN FINAL	PENUELAS	-66.723489	18.057806
CUARTEL POLICIA CAPITOLIO	CALLE REVERENDO GERARDO DAVILA	SAN JUAN	-66.1042	18.46699
POLICIA MUNICIPAL DE SANTA ISABEL	CALLE CELIS AGUILERA	SANTA ISABEL	-66.405066	17.962639
CUARTEL DE LA POLICIA ESTATAL - QUEBRADILLAS	CALLE JOSE PEREZ SOLER	QUEBRADILLAS	-66.937205	18.471914
CUARTEL CAPITAN ORLANDO PEREZ	CALLE SICILIA FINAL	SAN JUAN	-66.034325	18.414757
ZONA TURISTICA DE SAN JUAN - OCEAN PARK	CALLE SOLDADO SERRANO	SAN JUAN	-66.05005	18.450578
POLICIA MUNICIPAL DE GUAYNABO - CUARTEL DE GUARAGUAO	RAMAL 833	GUAYNABO	-66.137907	18.321015
POLICIA MUNICIPAL DE CULEBRA	CALLE PEDRO MARQUES	CULEBRA	-65.302201	18.302371
CUARTEL DE LA POLICIA ESTATAL - JUNCOS	CALLE BASILIA VELAZQUEZ FINAL	JUNCOS	-65.920327	18.232075

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Law Enforcement Location (200)				
NAME	ADDRESS	CITY	LONGITUDE	LATITUDE
POLICIA MUNICIPAL DE JUNCOS	PASEO ESCUTE	JUNCOS	-65.923685	18.230772
POLICIA MUNICIPAL DE MAUNABO	CARRETERA 901	MAUNABO	-65.876594	18.00226
CUARTEL DE LA POLICIA ESTATAL - LUQUILLO	CALLE 4 DE JULIO	LUQUILLO	-65.716733	18.375525
POLICIA MUNICIPAL DE AGUAS BUENAS	CALLE RAFAEL LAZA	AGUAS BUENAS	-66.102906	18.257097
CUARTEL DE LA POLICIA ESTATAL - PENUELAS	CALLE PEDRO VELAZQUEZ	PENUELAS	-66.724717	18.055519
POLICIA MUNICIPAL DE NARANJITO	CALLE MACELINO CRUZ	NARANJITO	-66.251201	18.301699
POLICIA MUNICIPAL DE YABUCOA	CALLE CATALINA MORALES	YABUCOA	-65.880389	18.048084
DEPARTAMENTO DE LA POLICIA DE SAN JUAN - CUARTEL MONTE HATILLO	AVENIDA 65 INFANTERIA	SAN JUAN	-66.012033	18.395471
CUARTEL DE LA POLICIA ESTATAL - SAN GERMAN	AVENIDA CASTRO PEREZ	SAN GERMAN	-67.035142	18.081139
POLICIA MUNICIPAL DE PATILLAS	CALLE MUNOZ RIVERA	PATILLAS	-66.017633	18.00588
POLICIA MUNICIPAL DE QUEBRADILLAS	CALLE COLICEO	QUEBRADILLAS	-66.93851	18.477896
POLICIA MUNICIPAL DE ARECIBO	CALLE TRINA PADILLAS	ARECIBO	-66.725503	18.473917
POLICIA MUNICIPAL DE BAYAMON	CALLE DOCTOR VEVE	BAYAMON	-66.155424	18.399228
POLICIA MUNICIPAL DE GUAYNABO - TRANSITO	AVENIDA RAMIREZ DE ARVELLANO	GUAYNABO	-66.117294	18.392678
POLICIA DE MUNICIPAL CATANO	AVENIDA LAS NEREIDAS	CATANO	-66.126172	18.441485
CUARTEL DE LA POLICIA - CAYEY	CALLE ANTONIO R BARCELO	CAYEY	-66.160302	18.116018
CUARTEL DE LA POLICIA - COMERIO	CARRETERA 775	COMERIO	-66.225168	18.216543
CUARTEL DE LA POLICIA - FAJARDO	CALLE VICTORIA	FAJARDO	-65.654764	18.324924
CUARTEL DE LA POLICIA ESTATAL - PRECINTO BARRIO OBRERO	AVENIDA EDUARDO CONDE FINAL	SAN JUAN	-66.041548	18.436708
DESTACAMENTO DE LA POLICIA PALMER - TRANSITO AREA FAJARDO	CARRETERA 955	RIO GRANDE	-65.773197	18.369417
CUARTEL DE LA POLICIA ESTATAL - RINCON	CALLE NEUVA FINAL	RINCON	-67.25024	18.337949
CUARTEL DE LA POLICIA ESTATAL - TOA ALTA	CALLE MUNOZ RIVERA 83	TOA ALTA	-66.247305	18.388268
CUARTEL DE LA POLICIA ESTATAL - YAUCO	CARRETERA 128	YAUCO	-66.859529	18.036916
CUARTEL DE POLICIA - YABUCOA	CALLE CATALINA MORALES 102	YABUCOA	-65.879447	18.046616
CUARTEL DE LA POLICIA ESTATAL - SAN LORENZO	CALLE MUNOZ RIVERA 188	SAN LORENZO	-65.963068	18.185643
POLICIA DE MUNICIPAL HORMIGUEROS	CALLE JULIO PEREZ IRIZARRY	HORMIGUEROS	-67.119379	18.137242
COMANDANCIA DE LA POLICIA DE AREA - HUMACAO	CALLE THOMAS BOILETTE FINAL	HUMACAO	-65.84092	18.148328
POLICIA MUNICIPAL DE LOIZA	CALLE 5A	LOIZA	-65.870767	18.383679
CUARTEL DE LA POLICIA ESTATAL - MANATI	CARRETERA 2	MANATI	-66.482619	18.43161
POLICIA MUNICIPAL DE CAGUAS - COMANDANCIA	AVENIDA LUIS MUNOZ MARIN	CAGUAS	-66.035214	18.216164
POLICIA MUNICIPAL DE CAGUAS - BARRIO BORINQUEN	CARRETERA 765	CAGUAS	-66.041496	18.173687
POLICIA MUNICIPAL DE CAGUAS - LA SIERRA	CARRETERA 172	CAGUAS	-66.106417	18.206466
CUARTEL GENERAL DE LA POLICIA	AVENIDA FRANKLIN D ROOSEVELT 101	SAN JUAN	-66.077864	18.417139

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Law Enforcement Location (200)				
NAME	ADDRESS	CITY	LONGITUDE	LATITUDE
POLICIA MUNICIPAL DE SAN LORENZO	CARRETERA 183	SAN LORENZO	-65.973965	18.191849
DEPARTAMENTO DE LA POLICIA DE SAN JUAN - CUARTEL MONTEHIEDRA	AVENIDA LOS ROMEROS Y CAMINO PASCUAL MULEROS	SAN JUAN	-66.07011	18.338977
DEPARTAMENTO DE LA POLICIA DE SAN JUAN - PRECINTO 266 PARADA 15 SANTURCE	CALLE CERRA 902	SAN JUAN	-66.081739	18.448489
DIVISION OPERACIONES TACTICA DE SAN JUAN	AVENIDA FERNANDEZ JUNCOS 7	SAN JUAN	-66.092634	18.461454
POLICIA MUNICIPAL DE CAGUAS - BARRIADA MORALES	CARRETERA 156	CAGUAS	-66.040123	18.23507
POLICIA MUNICIPAL DE CAGUAS - SANTA ELVIRA	CALLE SANTA ELENA	CAGUAS	-66.012214	18.236757
POLICIA MUNICIPAL DE CAGUAS - TOMAS DE CASTRO	CALLE VIOLETA	CAGUAS	-66.014346	18.23475
POLICIA MUNICIPAL DE GUAYNABO - CUARTEL DE HATO NUEVO	CARRETERA 834	GUAYNABO	-66.102704	18.313997
POLICIA MUNICIPAL DE CAGUAS - LA BARRA	CARRETERA 795	CAGUAS	-66.043655	18.28068
POLICIA MUNICIPAL DE CAGUAS - LAS CAROLINAS	CALLE LIRIO	CAGUAS	-66.067348	18.254999
POLICIA MUNICIPAL DE CAGUAS - CAGUAS NORTE	CALLE MOSCU	CAGUAS	-66.025095	18.24419
POLICIA MUNICIPAL DE CAMUY	AVENIDA MUNOZ RIVERA	CAMUY	-66.844871	18.483878
POLICIA MUNICIPAL DE CANOVANAS	CARRETERA 185	CANOVANAS	-65.900478	18.370263
POLICIA MUNICIPAL DE CIDRA - TENIENTE CARLOS MILAN RODRIGUEZ	CARRETERA 7733	CIDRA	-66.15498	18.168559
POLICIA MUNICIPAL DE CAGUAS - BARRIO BEATRIZ	CARRETERA 1	CAGUAS	-66.077373	18.186601
POLICIA MUNICIPAL DE MOROVIS	CARRETERA 155	MOROVIS	-66.407136	18.328947
CUARTEL DE LA POLICIA ESTATAL - NAGUABO	CALLE MUNOZ RIVERA	NAGUABO	-65.73816	18.211439
CUARTEL DE LA POLICIA ESTATAL - NARANJITO	CALLE MACELINO CRUZ 200	NARANJITO	-66.250714	18.302037
CUARTEL DE LA POLICIA ESTATAL - PATILLAS	CARRETERA 3	PATILLAS	-66.013121	18.00255
COMANDANCIA DE AREA DE LA POLICIA ESTATAL - PONCE	AVENIDA HOSTOS Y AVENIDA LAS AMERICAS	PONCE	-66.612732	18.002922
DEPARTAMENTO DE LA POLICIA DE SAN JUAN - CUARTEL RIO PIEDRAS	CALLE TIZOL 64	SAN JUAN	-66.051076	18.395887
POLICIA MUNICIPAL CAYEY	AVENUE LUIS MUNOZ MARIN 73	CAYEY	-66.160347	18.109741
POLICIA MUNICIPAL CEIBA	AVENIDA LAURO PINERO	CEIBA	-65.644464	18.269822
POLICIA MUNICIPAL FAJARDO	CALLE GARRIDO MORALES 100	FAJARDO	-65.655535	18.325338
POLICIA MUNICIPAL DE FLORIDA	CALLE MUNOZ RIVERA Y CALLE CARMELO SANTIAGO	FLORIDA	-66.565926	18.362768
CUARTEL DE POLICIA - CATANO	CARRETERA 5	CATANO	-66.127031	18.43811
CUARTEL DE LA POLICIA - CIALES	CALLE NEUVA 6	CIALES	-66.469824	18.337634
POLICIA DE MUNICIPIO DE HATILLO	CARRETERA 119	HATILLO	-66.827192	18.486607
CUARTEL DE LA POLICIA ESTATAL - CALLE LOIZA	CALLE BUCARE Y CALLE DURCELLA	SAN JUAN	-66.03919	18.449534

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Law Enforcement Location (200)					
NAME	ADDRESS	CITY	LONGITUDE	LATITUDE	
CUARTEL DE LA POLICIA ESTATAL - PRECINTO CUPEY 262	CALLE CLAVEL 578	SAN JUAN	-66.046827	18.362419	
CUARTEL DE LA POLICIA ESTATAL - PRECINTO RIO PIEDRAS	CALLE GEORGETTI 50	SAN JUAN	-66.051699	18.397291	
CUARTEL DE LA POLICIA ESTATAL - PRECINTO 166	AVENIDA FERNANDE JUNCOS 340	SAN JUAN	-66.096721	18.46261	
CUARTEL DE POLICIA ESTATAL - HATO REY OESTE	AVENIDA ELEONAR ROOSEVELT 226	SAN JUAN	-66.061483	18.420064	
CUARTEL DE LA POLICIA ESTATAL - SAN SEBASTIAN	CALLE SEVERO ARANA 13	SAN SEBASTIAN	-66.990748	18.334272	
COMANDANCIA DE LA POLICIA MUNICIPAL DE MAYAGUEZ	CALLE ENRIQUE VAZQUEZ BAEZ 190	MAYAGUEZ	-67.1443	18.196666	
CUARTEL DE DISTRITO DE LA POLICIA - FLORIDA	CARRETERA 140	FLORIDA	-66.567216	18.36675	
CUARTEL DE LA POLICIA ESTATAL - LOIZA	CARRETERA 187	LOIZA	-65.876327	18.4336	
CUARTEL DE LA POLICIA ESTATAL - MAUNABO	AVENUE KENNEDY 450	MAUNABO	-65.900282	18.005781	
POLICIA MUNICIPAL DE LAS PIEDRAS	CALLE JOSE CELSO BARBAROSA	LAS PIEDRAS	-65.864512	18.182723	
CUARTEL DE LA POLICIA ESTATAL - LAS PIEDRAS	CARRETERA 198	LAS PIEDRAS	-65.87158	18.184765	
CUARTEL DE LA POLICIA ESTATAL - ISABELA	CALLE JUAN HERNANDEZ 3201	ISABELA	-67.022507	18.498756	
POLICIA MUNICIPAL DE SAN GERMAN	CARRETERA 102	SAN GERMAN	-67.024942	18.076334	
POLICIA MUNICIPAL DE VEGA ALTA	CARRETERA 2	VEGA ALTA	-66.329001	18.414802	
CUARTEL DE LA POLICIA ESTATAL - VEGA BAJA	CALLE BETANCES 100	VEGA BAJA	-66.390174	18.444836	
CUARTEL DE LA POLICIA ESTATAL - PRECINTO PUERTO NUEVO	AVENIDA SAN PATRICIO 855	PUERTO NUEVO	-66.091959	18.394989	
CUARTEL DE LA POLICIA ESTATAL - PRECINTO CAIMITO	CARRETERA 842	SAN JUAN	-66.07805	18.338868	
CUARTEL DE LA POLICIA ESTATAL - LEVITTOWN	CALLE LUISA 4	TOA BAJA	-66.180908	18.447846	
COMANDANCIA DE AREA DE LA POLICIA - UTUADO	CARRETERA 111	UTUADO	-66.711955	18.267152	
DESTACAMENTO DE POLICIA ANGELES	CARRETERA 602	UTUADO	-66.802243	18.288221	
POLICIA MUNICIPAL DE LARES	CARRETERA 111 RAMAL	LARES	-66.87719	18.300743	
COMANDANCIA DE AREA BAYAMON	CARRETERA 28 FINAL	BAYAMON	-66.147543	18.415388	

Table 9B: Fire Station Locations Puerto Rico Data

Fire Station (84)				
NAME	ADDRESS	CITY	LONGITUDE	LATITUDE
PARQUE DE BOMBAS - COMERIO	CARRETERA 775	COMERIO	-66.227408	18.211052
PARQUE DE BOMBAS - MAUNABO	AVENUE KENNEDY 500	MAUNABO	-65.90152	18.005004
PARQUE DE BOMBAS - ADJUNTAS	CALLE RODULFO GONZALEZ 83	ADJUNTAS	-66.724757	18.166109
PARQUE DE BOMBAS - SAN JUAN - HATO REY	AVENIDA LUIS MUNOZ RIVERA Y CALLE MANUEL DOMENECH	SAN JUAN	-66.057099	18.416197
PARQUE DE BOMBAS - YABUCOA	CALLE CATALINA MORALES	YABUCOA	-65.881187	18.047868
PARQUE DE BOMBAS ESTACION 2 - UTUADO	CARRETERA 602 Y CALLE HERMAN VALENTIN	UTUADO	-66.803435	18.289432
156TH CUERPO EMERGENCIAS SERVICIOS FIRE DEPARTMENT	200 AVENIDA JOSE A SANTANA	CAROLINA	-65.998237	18.438514
PARQUE DE BOMBAS - LAJAS	CALLE 65 DE INFANTERIA 255	LAJAS	-67.056825	18.039707
PARQUE DE BOMBAS - GUAYANILLA	CALLE CONCEPCION 923	GUAYANILLA	-66.790596	18.018337
PARQUE DE BOMBAS - PATILLAS	CARRETERA 3 INTERIOR	PATILLAS	-66.012045	18.000971
PARQUE DE BOMBAS - SAN JUAN - RIO PIEDRAS	CALLE TIZOL ENTRADA POR RIO PIEDRAS PUEBLO	SAN JUAN	-66.050822	18.395842
PARQUE DE BOMBAS - TRUJILLO ALTO	CARRETERA 846	TRUJILLO ALTO	-66.024799	18.368554
PARQUE DE BOMBAS - BAYAMON	CALLE BETANCES Y CALLE MARTI	BAYAMON	-66.155322	18.399758
PARQUE DE BOMBAS - CIALES	CALLE PALMER CABALINES 2	CIALES	-66.468383	18.33386
PARQUE DE BOMBAS - DORADO	CALLE MENDEZ VIGO	DORADO	-66.265522	18.460282
PARQUE DE BOMBAS - LAS MARIAS	CALLE MATIA BRUTMAN 101	LAS MARIAS	-66.991685	18.251748
PARQUE DE BOMBAS - LUQUILLO	CARRETERA 992 Y CARRETERA 3	LUQUILLO	-65.717661	18.371819
PARQUE DE BOMBAS - QUEBRADILLAS	CALLE SOCORRO 91	QUEBRADILLAS	-66.934734	18.470951
PARQUE DE BOMBAS - SAN LORENZO	CARRETERA 183	SAN LORENZO	-65.958928	18.183473
PARQUE DE BOMBAS - PONCE	CALLE ALCAZAR Y AVENIDA BOULEVARD MIGUEL POU	PONCE	-66.604515	18.013009
PARQUE DE BOMBAS - CAMUY	AVENIDA MUNOZ RIVERA 62	CAMUY	-66.842156	18.483485
PARQUE DE BOMBAS - RIO GRANDE	CALLE LAS FLORES	CANOVANAS	-65.842136	18.377021
PARQUE DE BOMBAS - MOROVIS	CALLE PATRON 10	MOROVIS	-66.404776	18.327355
PARQUE DE BOMBAS - CAROLINA	AVENIDA ROBERTO CLEMENTE	CAROLINA	-65.966003	18.39845
PARQUE DE BOMBAS - CULEBRA	CARRETERA 250	CULEBRA	-65.299706	18.301787
PARQUE DE BOMBAS - AGUADA	CALLE COLON 25	AGUADA	-67.183746	18.381067
PARQUE DE BOMBAS - AGUADILLA	AVENUE KENNEDY 22	AGUADILLA	-67.149381	18.444496
FORT BUCHANAN FIRE AND EMERGENCY RESCUE SERVICES-DOD	CHRISMAN ROAD	FORT BUCHANAN	-66.117989	18.412649
PARQUE DE BOMBAS - PENUELAS	CALLE PR LATOYA 613	PENUELAS	-66.722869	18.058523

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Fire Station (84)				
NAME	ADDRESS	CITY	LONGITUDE	LATITUDE
PARQUE DE BOMBAS - RINCON	CALLE HERMAN OCASIO	RINCON	-67.245118	18.337743
PARQUE DE BOMBAS - SABANA GRANDE	CARRETERA 102	SABANA GRANDE	-66.979501	18.081969
PARQUE DE BOMBAS - SALINAS	CARRETERA 1	SALINAS	-66.289281	17.98505
PARQUE DE BOMBAS - SAN GERMAN	CAMINO DON YOLO Y CARRETERA 2	SAN GERMAN	-67.03054	18.09312
PARQUE DE BOMBAS - SAN JUAN - PUERTO NUEVO	CALLE CONSTITUCION Y CALLE CADIZ	SAN JUAN	-66.085434	18.413079
PARQUE DE BOMBAS - SAN JUAN CENTRAL	AVENIDA MANUEL FERNANDEZ JUNCOS Y CALLE DEL TREN	SAN JUAN	-66.092073	18.462586
PARQUE DE BOMBAS - SAN SEBASTIAN	CARRETERA 125 Y CARRETERA 109	SAN SEBASTIAN	-66.99465	18.335953
PARQUE DE BOMBAS - SANTA ISABEL	CARRETERA 153	SANTA ISABEL	-66.403862	17.977316
PARQUE DE BOMBAS - TOA BAJA	CARRETERA 854 4	TOA BAJA	-66.252907	18.440127
PARQUE DE BOMBAS - VEGA ALTA	CARRETERA 2	VEGA ALTA	-66.328299	18.413752
PARQUE DE BOMBAS - ISABELA	CALLE LORENZO CHICO	ISABELA	-67.026464	18.487894
PARQUE DE BOMBAS - JAYUYA	RAMAL 141 5141	JAYUYA	-66.593195	18.225196
PARQUE DE BOMBAS - JUANA DIAZ	CALLE DESVIO VICTOR CRUZ	JUANA DIAZ	-66.500617	18.04327
PARQUE DE BOMBAS - VEGA BAJA	AVENIDA LAS FLORES	VEGA BAJA	-66.3918	18.4536
PARQUE DE BOMBAS - LARES	CARRETERA 111	LADES	-66.87374	18.297413
PARQUE DE BOMBAS - VILLALBA	CARRETERA 149	VILLALBA	-66.493982	18.129276
PARQUE DE BOMBAS - YAUCO	BOULEVARD JIMMY TORRES	YAUCO	-66.857573	18.022674
PARQUE DE BOMBAS / SERVICIO MANEJO DE AMBULANCIA - MAYAGUEZ	CALLE SAN RAFAEL 214	MAYAGUEZ	-67.133806	18.199526
PARQUE DE BOMBAS ESTACION 1 - UTUADO	CARRETERA 111 AVENIDA FERNANDO L RIBAS DOMINICCI	UTUADO	-66.702002	18.268544
PARQUE DE BOMBAS - AGUAS BUENAS	CARRETERA 156	AGUAS BUENAS	-66.10142	18.255224
PARQUE DE BOMBAS - AIBONITO	CALLE FELIX RIOS	AIBONITO	-66.270357	18.13855
PARQUE DE BOMBAS - ANASCO	CARRETERA 402	ANASCO	-67.140215	18.289382
PARQUE DE BOMBAS - ARECIBO	156 AVENIDA HOSTOS	ARECIBO	-66.726322	18.471176
PARQUE DE BOMBAS - ARROYO	CALLE LA VALENTINA	ARROYO	-66.061698	17.969025
PARQUE DE BOMBAS - BARCELONETA	CARRETERA 2	BARCELONETA	-66.549976	18.433095
PARQUE DE BOMBAS - LAS PIEDRAS	DESVIO FELIZ LOPEZ	LAS PIEDRAS	-65.873149	18.17639
PARQUE DE BOMBAS - LOIZA	CARRETERA 187	LOIZA	-65.875147	18.434357
PARQUE DE BOMBAS - MANATI	CARRETERA 670	MANATI	-66.467957	18.424958
PARQUE DE BOMBAS - BARRANQUITAS	CARRETERA 152R	BARRANQUITAS	-66.304341	18.189394
PARQUE DE BOMBAS - CABO ROJO	CALLE BARBOSA FINAL	CABO ROJO	-67.147125	18.091302
PARQUE DE BOMBAS - CAGUAS	CALLE GOYCO Y AVENIDA RAFAEL CORDERO	CAGUAS	-66.029687	18.235136

Fire Station (84)				
NAME	ADDRESS	CITY	LONGITUDE	LATITUDE
PARQUE DE BOMBAS - CANOVANAS	CALLE CORCHADO Y CALLE A	CANOVANAS	-65.898906	18.377342
PARQUE DE BOMBAS - CATANO	CALLE OLIVO Y CARRETERA 165	CATANO	-66.126773	18.440836
PARQUE DE BOMBAS - MARICAO	CARRETERA 120	MARICAO	-66.981752	18.184652
PARQUE DE BOMBAS - CAYEY	CARRETERA 1	CAYEY	-66.161006	18.106136
PARQUE DE BOMBAS - CEIBA	CALLE COMPLEJO DEPARTIVO II	CEIBA	-65.647453	18.259199
PARQUE DE BOMBAS - CIDRA	AVENIDA EL JIBARO Y CARRETERA 173	CIDRA	-66.158868	18.185861
PARQUE DE BOMBAS - COAMO	AVENIDA LUIS MUNOZ MARIN	COAMO	-66.368503	18.077455
PARQUE DE BOMBAS - COROZAL	CALLE 1 Y CARRETERA 159	COROZAL	-66.321807	18.34466
PARQUE DE BOMBAS - FAJARDO	AVENUE EL CONQUISTADOR 38	FAJARDO	-65.657808	18.335631
PARQUE DE BOMBAS - MOCA	CALLE MONSEÑOR J TORRES 145	MOCA	-67.11283	18.391414
PARQUE DE BOMBAS - NAGUABO	CARRETERA 31	NAGUABO	-65.741436	18.213251
PARQUE DE BOMBAS - NARANJITO	CARRETERA 164	NARANJITO	-66.238608	18.300337
PARQUE DE BOMBAS - OROCOVIS	AVENUE LUIS MUNOS MARIN 4	OROCOVIS	-66.392984	18.228599
PARQUE DE BOMBAS - FLORIDA	CARRETERA 140	FLORIDA	-66.566914	18.367577
PARQUE DE BOMBAS - GUANICA	CARRETERA 333	GUANICA	-66.903885	17.973171
PARQUE DE BOMBAS - GUAYAMA	AVENUE PRINCIPAL 100	GUAYAMA	-66.114164	17.972034
PARQUE DE BOMBAS - GUAYNABO	CARRETERA 837	GUAYNABO	-66.11575	18.357799
PARQUE DE BOMBAS - GURABO	CARRETERA 9944	GURABO	-65.977081	18.255788
PARQUE DE BOMBAS - HATILLO	CARRETERA 2	HATILLO	-66.818918	18.484512
PARQUE DE BOMBAS - HORMIGUEROS	CARRETERA 345	HORMIGUEROS	-67.111649	18.131922
PARQUE DE BOMBAS - HUMACAO	CALLE CRUZ ORTIZ ESTELA	HUMACAO	-65.82776	18.154123
PARQUE DE BOMBAS - TOA ALTA	CARRETERA 8861	TOA ALTA	-66.252535	18.384559
PARQUE DE BOMBAS - JUNCOS	CARRETERA 935	JUNCOS	-65.892002	18.216187
VIEQUES FIRE STATION	CARRETERA 997	VIEQUES	-65.43971	18.140863

Table 9C: Unites States Coast Guard Unit Puerto Rico Data

<i>US Coast Guard (USCG) Unit (18)</i>				
NAME	UNIT TYPE	ADDRESS	LATITUDE	LONGITUDE
CGC SAPELO (WPB 1314)	CGC	5 Calle La Puntilla	18.461078	-66.117089
SEC SAN JUAN	SEC	U.S. Coast Guard 5 Calle La Puntilla	18.465426	-66.107862
CGC CUSHING (WPB 1321)	CGC	5 Calle, La Puntilla	18.465426	-66.107862
CGC NUNIVAK	WPB 123	C/O SECTOR KEY WEST	18.461078	-66.117089
NESU MIAMI DET GANTSEC	ER&MDET	C/O USCG BASE BOX 5-2029	18.465426	-66.107862
BASE SAN JUAN	BASE	La Puntilla Final	18.460207	-66.116639
CGC OCRACOE (WPB 1307)	CGC	5 Calle, La Puntilla	18.461078	-66.117089
CGC VASHON (WPB 1308)	CGC	c/o CG Base 5 Calle La Puntilla Fina	18.461078	-66.117089
CGC MATINICUS (WPB 1315)	CGC	5 Calle, La Puntilla	18.461078	-66.117089
AIRSTA BORINQUEN	AIRSTA	260 Guard Road	18.497512	-67.134355
CG GANTSEC	SEC OFF	US COAST GUARD BASE BOX S-2029	18.465426	-66.107862
ANT PUERTO RICO	ANT	5 Calle, La Puntilla	18.465426	-66.107862
CG MSO SAN JUAN	MSO	PO BOX 71526	18.443056	-66.068889
STA SAN JUAN	STA	La Puntilla Final	18.461078	-66.117089
ESDD AGUADILLA	ESD		18.465426	-66.107862
ESD SAN JUAN	ESD		18.465426	-66.107862
ESDD ROOSEY ROADS	ESD		18.43918	-66.35286
COAST GUARD LIAISON OFFICER	LIAISON	U.S. Coast Guard TAFT Calle 5 La Puntilla Final	18.465426	-66.107862

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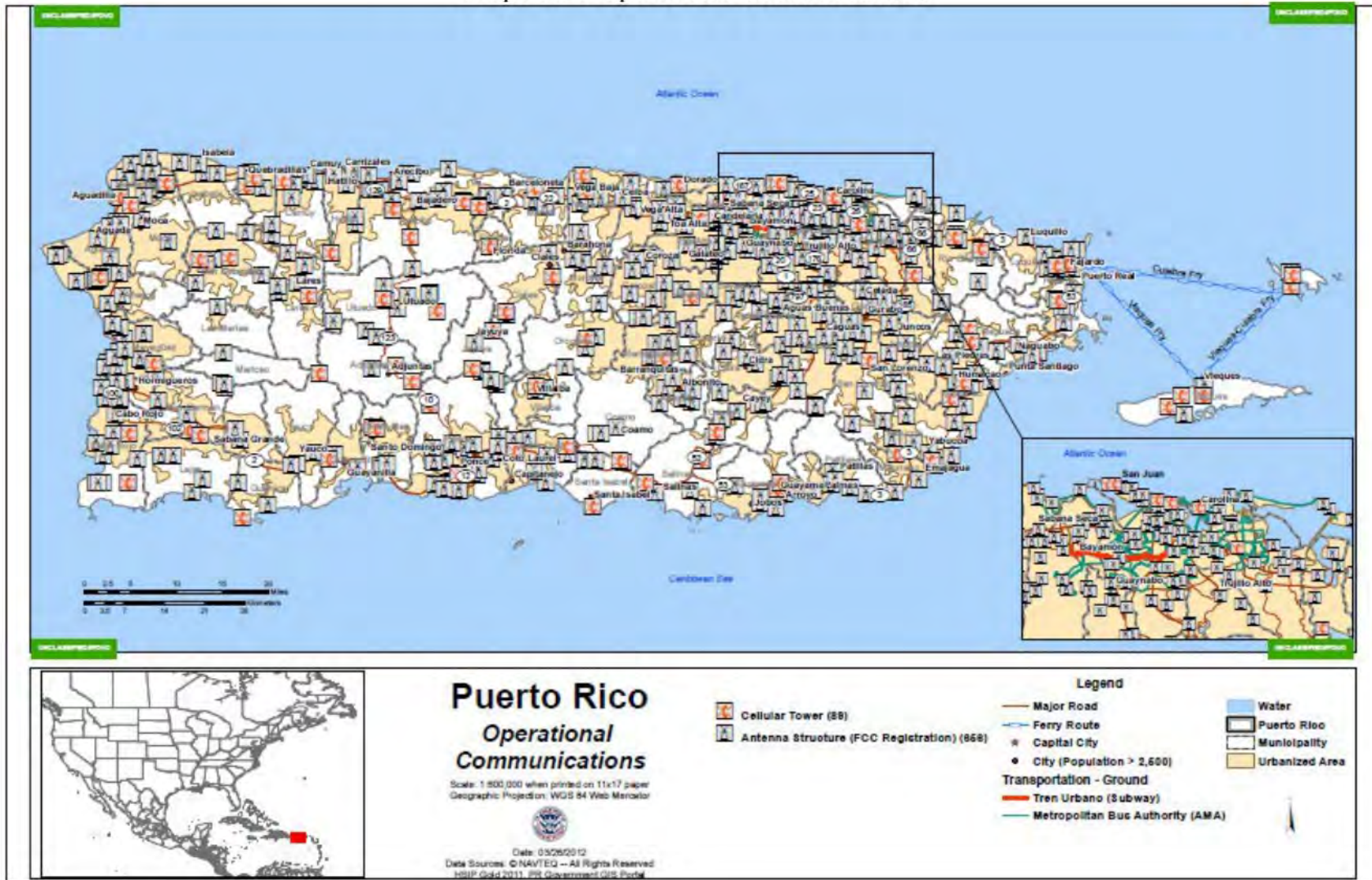
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PUERTO RICO CATASTROPHIC PLANNING ANNEX
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10.0 OPERATIONAL COMMUNICATIONS

Graph 10A: Operational Communications



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PUERTO RICO CATASTROPHIC PLANNING ANNEX
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Table 10A: Cell Tower Locations Puerto Rico Data

Operational Communications Cellular Tower (89)					
LICENSEE	CALLSIGN	LOCADD	LOCCITY	LATITUDE	LONGITUDE
AT&T Mobility of Puerto Rico Inc.	WPVV300	RD 976, MACHO ARRIBA WARD	Ceiba	18,16,43	65,40,11
AT&T Mobility of Puerto Rico Inc.	WPVV300	5 STREET #131 LA C SECTOR	NAGUABO	18,12,49	65,48,23
AT&T Mobility Puerto Rico Inc.	KNKA467	ROAD # 14, KM 20 HM 7 RIO CANAS WARD		18,2,53	66,26,39
AT&T Mobility Puerto Rico Inc.	KNKA467	PANORAMIC ROAD # 143 KM. 18, VEGUITA WARD	JAYUYA	18,10,20	66,35,30
AT&T Mobility Puerto Rico Inc.	KNKA467	ROAD 123 KM 2 GUARAGUAO WARD	Ponce	18,6,53	66,39,31
AT&T Mobility Puerto Rico Inc.	KNKA467	ROAD # 561 KM 0.3 INTERIOR, ACEITUNA ARRIBA WARD	VILLALBA	18,8,36	66,29,31
AT&T Mobility Puerto Rico Inc.	KNKA627	ROAD # 466 KM 0.7	AGUADILLA	18,27,52	67,4,27
AT&T Mobility Puerto Rico Inc.	KNKA627	PR 466 KM 0.7 CEIBA BAJA WARD	AGUADILLA	18,26,29	67,8,48
AT&T Mobility Puerto Rico Inc.	KNKA804	ROAD #2 KILOMETER 62.1 BETANIA SECTOR	Arecibo	18,26,3	66,36,21
AT&T Mobility Puerto Rico Inc.	KNKA804	CARR 477 CACAO WARD	Quebradillas	18,27,36	66,56,54
AT&T Mobility Puerto Rico Inc.	KNKA804	RD # 2 KM 102.5	CAMUY	18,28,1	66,53,22
AT&T Mobility Puerto Rico Inc.	KNKA804	RD # 134 KM 26.3 EL MANGO SECTOR BAYANEY WARD	Hatillo	18,21,17	66,48,53
AT&T Mobility Puerto Rico Inc.	KNKA804	Road 10 km 75.3	Arecibo	18,22,45	66,41,24
AT&T Mobility Puerto Rico Inc.	KNKN517	PANORAMIC ROAD # 143 KM. 18, VEGUITA WARD	JAYUYA	18,10,20	66,35,30
AT&T Mobility Puerto Rico Inc.	KNKN517	RD # 608 KM 6, FRONTON WARD	CIALES	18,15,45	66,32,23
AT&T Mobility Puerto Rico Inc.	KNKN517	RD 149 KM 16, JAGUAS WARD	CIALES	18,19,4	66,27,57
AT&T Mobility Puerto Rico Inc.	KNKN517	ROAD 566 KM. 1.3 (interior) INTERSECTION 157, SALTO WARD, OROCOVIS, PR	Orocovis	18,13,10	66,24,43
AT&T Mobility Puerto Rico Inc.	KNKN517	CAGUANA WARD	UTUADO	18,16,49	66,43,43
AT&T Mobility Puerto Rico Inc.	KNKN843	MALPASO SECTOR, SANTO DOMINGO WARD	Penuelas	18,4,41	66,44,56
AT&T Mobility Puerto Rico Inc.	KNKN843	PR- 521 KM 5.7, VEGAS WARD	ADJUNTAS	18,10,36	66,42,45
AT&T Mobility Puerto Rico Inc.	KNKN843	ROAD 301 KM 2.6 INT. BARRIO LLANOS COSTOS, SECTOR EL CA+O	CABO ROJO	17,59,32	67,8,4
AT&T Mobility Puerto Rico Inc.	KNKN843	ROAD 374 HACIENDA ASUNCION RIO PRIETO WARD	Yauco	18,9,54	66,50,0
AT&T Mobility Puerto Rico Inc.	KNKN843	ROAD #143 KILOMETER 1.4 PORTUGUES WARD	Adjuntas	18,9,2	66,41,12
AT&T Mobility Puerto Rico Inc.	KNKN843	CARR 125 KM 26.6 BO POZA CENTRAL	San Sebastian	18,20,12	67,0,41
AT&T Mobility Puerto Rico Inc.	KNKN682	411 Road, Rincon PR ite: Rincon	RINCON	18,18,40	67,11,4
AT&T Mobility Puerto Rico Inc.	KNKQ362	PR-997 PUERTA REAL WARD, LOT # 36	Vieques	18,7,42	65,26,26
AT&T Mobility Puerto Rico Inc.	KNKQ362	ROAD 995 LLAVE WARD	VIEQUES	18,6,43	65,29,44
AT&T Mobility Puerto Rico Inc.	KNKA451	ROAD 301 KM 2.6 INT. BARRIO LLANOS COSTOS, SECTOR EL CA+O	Cabo Rojo	17,59,32	67,8,4
AT&T Mobility Puerto Rico Inc.	KNKA451	ROAD# 411 KM 7.5 PICO CANTA GALLO, ATALAYA	RINCON	18,18,39	67,11,4

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Operational Communications Cellular Tower (89)					
LICENSEE	CALLSIGN	LOCADD	LOCCITY	LATITUDE	LONGITUDE
AT&T Mobility Puerto Rico Inc.	KNKA451	WARD ROAD # 101 KILOMETER 1.2 ANCONES WARD	SAN GERMAN	18,4,22	67,2,19
AT&T Mobility Puerto Rico Inc.	KNKA785	ROAD 966 KM 1.4 ZARZAL WARD	RIO GRANDE	18,21,39	65,47,28
AT&T Mobility Puerto Rico Inc.	KNKA785	ROUTE 52 BETWEEN ROUTES 714 & 715	Cayey	18,4,18	66,12,27
AT&T Mobility Puerto Rico Inc.	KNKA785	AMERICAN AIRLINES BLDG, LOPEZ LANDRON STREET	San Juan	18,27,0	66,3,55
AT&T Mobility Puerto Rico Inc.	KNKA785	GONZALEZ PADING BUILDING	San Juan	18,27,54	66,6,58
AT&T Mobility Puerto Rico Inc.	KNKA785	ROUTE 3	FAJARDO	18,20,0	65,40,21
AT&T Mobility Puerto Rico Inc.	KNKA785	Hosp. Hima San Pablo Fajardo Ave. General Varelo Carr. 194 km 2.6	Fajardo	18,20,11	65,39,20
AT&T Mobility Puerto Rico Inc.	KNKA785	PR140 FLORIDA ADENTRO WARD, EL JUNCO SECTOR	FLORIDA	18,21,55	66,33,55
AT&T Mobility Puerto Rico Inc.	KNKA785	BARRIO MARIANA, RTE909	HUMACAO	18,7,26	65,50,19
AT&T Mobility Puerto Rico Inc.	KNKA785	PR 685 KM 4.2 INTERIOR	Manati	18,27,21	66,29,34
AT&T Mobility Puerto Rico Inc.	KNKA785	ROAD # 152 KILOMETER 3.0 ANONES WARD	NARANJITO	18,17,5	66,14,48
AT&T Mobility Puerto Rico Inc.	KNKA785	Carretera 185 Km. 7.7, Bo. Hato Puerco sector Campo Rico	Canovanas	18,19,6	65,53,48
AT&T Mobility Puerto Rico Inc.	KNKA785	RAMAL 6686, VENUS FINAL STREET, BARRIADA SANDIN	VEGA BAJA	18,28,39	66,25,7
AT&T Mobility Puerto Rico Inc.	KNKA785	ROAD 183, CENTRO COMERCIAL SAN LORENZO PLAZA	SAN LORENZO	18,11,5	65,57,58
AT&T Mobility Puerto Rico Inc.	KNKA785	CARR # 2 CANDELARIA WARD	TOA BAJA	18,24,31	66,13,58
AT&T Mobility Puerto Rico Inc.	KNKQ343	Carr 3 Int. Sect. HACIENDA LA CARLOTA, BO. CAIMITAL	GUAYAMA	17,59,26	66,6,24
AT&T Mobility Puerto Rico Inc.	KNKQ343	CERRO SANTA ELENA, JUAN MARTIN & EMAJAGUA WARDS, YABUCOA, P.R.	YABUCOA	18,1,32	65,52,6
AT&T Mobility Puerto Rico Inc.	KNKQ343	QUEBRADA GRANDE WARD, LOT # 9	BARRANQUIT AS	18,11,20	66,17,28
AT&T Mobility Puerto Rico Inc.	KNKQ343	STATE ROAD 153 KILOMETER 9.0 INT JUACA SEGUNDA	Santa Isabel	18,1,37	66,21,36
AT&T Mobility Puerto Rico Inc.	KNKQ343	ROUTE 52 BETWEEN ROUTES 714 AND 715	Cayey	18,4,18	66,12,27
AT&T Mobility Puerto Rico Inc.	KNKQ343	RD 1 INT RIO JUEYES WARD LOS OCHENTA WARD	Salinas	17,59,25	66,19,9
AT&T Mobility Puerto Rico Inc.	KNKQ343	RD 5389 FINAL PLAYA WARD EL MALECON SECTOR	Santa Isabel	17,57,13	66,24,7
AT&T Mobility Puerto Rico Inc.	KNKN521	LA TROCHA ROAD KM 1.2 RESACA SECTOR FLAMENCO WARD	Culebra	18,19,11	65,17,58
Puerto Rico Telephone Company,	KNKN414	S.29 JULIAN RIVERA ST.	CEIBA	18,15,47	66,38,50

Operational Communications Cellular Tower (89)					
LICENSEE	CALLSIGN	LOCADD	LOCCITY	LATITUDE	LONGITUDE
Inc.					
Puerto Rico Telephone Company, Inc.	KNKN414	Carr. 950, Km 3.6 Bo. Higuerillo		18,14,7	65,48,36
Puerto Rico Telephone Company, Inc.	KNKN397	1.5 MI W OF RIO JUEYES, ATOP CERRO DE LAS	CUEVAS MOUNTAIN	18,1,30	66,21,13
Puerto Rico Telephone Company, Inc.	KNKN397	STATE ROAD #3 KM. 142.4		17,58,52	66,6,43
Puerto Rico Telephone Company, Inc.	KNKN397	CARR. 156 KM. 19.0 INTERIOR BO. QUEBRADA GRANDE	BARRANQUITAS	18,11,12	66,17,26
Puerto Rico Telephone Company, Inc.	KNKN397	Albergue Olimpico Carr. #172 Km 3.0	Salinas	18,1,32	66,13,53
Puerto Rico Telephone Company, Inc.	KNKN397	CARR. #3, KM. 102.7 (4.8 MILES SOUTHWEST OF YSBUCA) SECTOR PANDURAS	BO. CALABAZAS	18,2,11	65,55,29
Puerto Rico Telephone Company, Inc.	KNKN397	AUTORIDAD DE ACUEDUCTOS Y ALCANTARILLADOS CARR. #1 KM 167.4 INTERIOR C	SALINAS	17,59,19	66,19,11
Puerto Rico Telephone Company, Inc.	KNKN486	Cerro Martineau	Vieques	18,7,43	65,28,30
Puerto Rico Telephone Company, Inc.	KNKN957	CALLE PEDRO MARQUEZ	CULEBRA	18,18,9	65,18,7
Puerto Rico Telephone Company, Inc.	KNKA384	0.4 MILES W OF THE INTERSECTION OF RT.#3 & RT. 924	HUMACAO	18,8,56	65,49,8
Puerto Rico Telephone Company, Inc.	KNKA384	1.1 MILE NW OF FAJARDO	FAJARDO	18,20,0	65,40,20
Puerto Rico Telephone Company, Inc.	KNKA384	CARRETERA 190	SABANA ABAJO	18,24,0	65,59,0
Puerto Rico Telephone Company, Inc.	KNKA384	PIMENTEL ST. #46		18,22,49	65,49,55
Puerto Rico Telephone Company, Inc.	KNKA384	BALDORIOTY AVENUE	SANTURCE	18,26,47	66,3,6
Puerto Rico Telephone Company, Inc.	KNKA384	URB. INDUSTRIAL NEVAREZ CALLE SPANA 50 MTS. FROM AVE. MENDEZ VIGO	DORADO	18,27,41	66,16,3
Puerto Rico Telephone Company, Inc.	KNKA384	PONCE DE LEON AVE.	SAN JUAN	18,27,56	66,6,33
Puerto Rico Telephone Company, Inc.	KNKA384	BRISAS DE TORTUGUERO CALLE RIO AMAZONS	VEJA BAJA	18,27,8	66,24,46
Puerto Rico Telephone Company, Inc.	KNKA384	BO. FLORIDA AFUERA KM. 59.7 (INT.) CARR. NUM. 2	FLORIDA AFUERA	18,25,34	66,34,53

Operational Communications Cellular Tower (89)					
LICENSEE	CALLSIGN	LOCADD	LOCCITY	LATITUDE	LONGITUDE
Puerto Rico Telephone Company, Inc.	KNKA384	EDIFICIO O.C. - CARR. 187 KM 1.0 SECTOR BOCA DE CANGREJOS BO. ISLA VER	ISLA VERDE	18,26,32	66,1,22
Puerto Rico Telephone Company, Inc.	KNKN371	.3 MILES NW STATE ROAD 141 & 533		18,13,56	66,33,37
Puerto Rico Telephone Company, Inc.	KNKN371	ROAD #622 KM. 0.5	BARRIO JACANAS	18,16,52	66,43,58
Puerto Rico Telephone Company, Inc.	KNKA471	ON RT. 349, ATOP LAS MESAS MTN.	MAYAGUEZ	18,10,48	67,5,39
Puerto Rico Telephone Company, Inc.	KNKA471	0.60MI. SW OF THE INTERSECTION OF RT. 102 & RT. 118	SAN GERMAN	18,4,2	67,1,14
Puerto Rico Telephone Company, Inc.	KNKA471	SECTOR LLANOS TUNAS STATE ROAD #312 CABO ROJO, P.R.	STATE ROAD	18,4,7	67,7,58
Puerto Rico Telephone Company, Inc.	KNKA464	2.0 MILES WEST OF AGUADILLA	AGUADILLA	18,25,48	67,7,50
Puerto Rico Telephone Company, Inc.	KNKA464	Road #112 yield with Road #473	Isabela	18,20,37	67,1,19
Puerto Rico Telephone Company, Inc.	KNKA460	0.7 MILES EAST OF DOMINGUITO	ARECIBO	18,25,24	66,43,2
Puerto Rico Telephone Company, Inc.	KNKA460	LAMELA ST. #72	QUEBRADILLAS	18,28,19	66,56,11
Puerto Rico Telephone Company, Inc.	KNKN532	1 MILE E-SE OF INTERSECTION OF HIGHWAY #2 AND ROAD #359 NEAR	YAUCO	18,1,43	66,49,4
Puerto Rico Telephone Company, Inc.	KNKN532	0.5 KM. NORTH OF ROAD #119	BARRIO HOYA MALA	18,20,52	66,58,28
Puerto Rico Telephone Company, Inc.	KNKN532	Carr. #132	Bo. Macana	18,4,36	66,44,34
Puerto Rico Telephone Company, Inc.	KNKN532	Road #129 Bo. Mijan	Lares	18,17,9	66,51,1
Puerto Rico Telephone Company, Inc.	KNKN532	CENTRO VACACIONA DEL CARIBE PLAYA SANTA EDIFICIO ADMINISTRACION EMPLEA	GUANICA	17,56,15	66,57,16
Puerto Rico Telephone Company, Inc.	KNKN505	PUERTO RICO TELEPHONE COMPANY ATALAYA ROAD, 411 KM 2.0	RINCON	18,18,56	67,10,46
Puerto Rico Telephone Company, Inc.	KNKA399	0.1 MILE NW OF THE INTERSECTION OF AVE LAS AMERICA S & CALLE SALUD	PONCE	18,0,16	66,36,50
Puerto Rico Telephone Company, Inc.	KNKA399	ON RT. 52, 1.3 MILES SW OF JUANA DIAZ	JUANA DIAZ	18,2,27	66,31,27

Table 10B: Antenna Structures Puerto Rico Data

Operational Communications					
Antenna Structure (FCC Registration) (656)					
ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE	
3G Development	PR #10, Km. 4.0, Portugues Ward,	Ponce	18.0551	-66.6235	
3G DEVELOPMENT DBA INNOVATION WIRELESS GROUP	DTATE ROAD 119 KM. 16.3 GUAJATACA WARD	QUEBRADILLAS	18.3985	-66.908	
3G DEVELOPMENT, INC	Satate Road #453, Km. 2.7, Guajatac	Quebradillas	18.3814	-66.9083	
3G DEVELOPMENT, INC.	Road #782, int. with Road #7783, Rio Abajo Ward,	Cidra	18.1983	-66.1961	
3G DEVELOPMENT, INC.	AVE. ITURREGUI #845, COUNTRY CLUB	San Juan	18.4107	-66.0099	
ABACOA RADIO CORPORATION	BO HATO ABAJO RD 653 BARRANCAS	ARECIBO	18.4567	-66.7558	
Advaced Wireless Communications, Inc.	Carr # 446 Km 0.6 Bo. Cotto Llanadas	Isabela	18.4792	-66.9931	
Advaced Wireless Communications, Inc.	Carr 162 KM 1.8 Interior Aibonito Sur	Aibonito	18.1424	-66.288	
Advaced Wireless Communications, Inc.	Ave. Cementerio Nacional Carr 168 Bo. Hato Tejas	Bayamon	18.4115	-66.1706	
Advaced Wireless Communications, Inc.	Carr 1 Sector La Ley Bo. Monte Llanos	Cayey	18.1159	-66.1337	
Advaced Wireless Communications, Inc.	Carr 111 Km 33.7 Int. Lot 10 Sector seburuquillo	Lares	18.3021	-66.7316	
Advaced Wireless Communications, Inc.	Urb. Ramirez de Arrellanos Calle Coll y Toste	Mayaguez	18.1896	-67.1549	
Advaced Wireless Communications, Inc.	Carr 31 Km 1 Bo. Peña Pobre	Naguabo	18.2264	-65.8285	
Advaced Wireless Communications, Inc.	Carr 14 Calle Central 77 Bo. Cotto Laurel	Ponce	18.0501	-66.5516	
Advaced Wireless Communications, Inc.	Calle Olot 450 Urb. Openland	San Juan	18.4086	-66.0383	
Advaced Wireless Communications, Inc.	Carr 12 P 40 Bo. San Isidro	Canovanas	18.3947	-65.8859	
Advaced Wireless Communications, Inc.	Carr 198 Km 24.6 Sector La Gran Parada, Bo. Collores, Sector La Fermina	Humacao	18.1744	-65.8495	
Advance Wireless Communications	Sabanetas Industrial Park	Ponce	18.0106	-66.5822	
Advance Wireless Communications	Piñones Torrecillas Site	Loiza	18.4456	-65.8955	
Advance Wireless Communications	La Cadena Communication Tower	Aguada	18.3486	-67.1619	
Advance Wireless Communications	Naguabo Down Town	Naguabo	18.2085	-65.7311	
Advance Wireless Communications	Musafß Site	Patillas	17.9773	-65.9256	
Advance Wireless Communications	Boca de Cangrejos	Carolina	18.4561	-65.9916	
Advance Wireless Communications	IPR Belz	Canovanas	18.3823	-65.8805	
Advanced Wireless Communications, Inc	Carr 749 Km 1.4 Bo. Qda Grande	Barranquitas	18.209	-66.2804	
ADVANCED WIRELESS COMMUNICATIONS, INC.	Carr 785 Km 1.7 Bo. Cañaboncito, Caguas	Caguas	18.2204	-66.0761	
ADVANCED WIRELESS COMMUNICATIONS, INC.	CARR 3 KM 97.5 BO. JUAN MATIN VILLA , YABUCOA	YABUCOA	18.0396	-65.8727	
Advanced Wireless Communications, Inc.	Carr PR 547 Km 2.7 Bo. Aceituna	Villalba	18.1369	-66.4925	
Advanced Wireless Communications, Inc.	Ave de Diego # 726 Puerto Nuevo	San Juan	18.4042	-66.0875	
Advanced Wireless communications, Inc.	Carr 165 Levitown Toa Baja	Toa Baja	18.4619	-66.192	
Advanced Wireless communications, Inc.	Guayama Parcela A-1 sector Machete	Guayama	17.9747	-66.1006	
Advanced Wireless Communications, Inc.	Gurabo, Bo. Masa.	Gurabo,	18.2936	-65.9767	

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PUERTO RICO CATASTROPHIC PLANNING ANNEX
FOR OFFICIAL USE ONLY (FOUO)

Operational Communications				
Antenna Structure (FCC Registration) (656)				
ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE
Advanced Wireless Communications, Inc.	Barranquitas	Barranquitas	18.2111	-66.3028
Advanced Wireless Communications, Inc.	Carr 121 KM 13.5 Bo. Susua Baja,	Yauco	18.0197	-66.8772
Advanced Wireless Communications, Inc.	Calle Cristy # 152 Carr Esr # 2	Mayaguez	18.2003	-67.1487
Advanced Wireless Communications, Inc.	Carr 807 Km 0.8 Bo. Dos Bocas I,	Corozal	18.3303	-66.3191
Advanced Wireless Communications, Inc.	Carr 818 km 2.2 Bo. Cibuco, sector Maguayo	Corozal	18.3434	-66.3329
Advanced Wireless Communications, Inc.	Carr 181 Bo. Celada	Gurabo	18.2691	-65.9656
Advanced Wireless Communications, Inc.	Carr 867 Km 2.7 Sector veintiseis, Bo. Ingenio	Toa Baja	18.4385	-66.2082
Advanced Wireless Communications, Inc.	Carr 651 Km 0.9 Bo. Hato Arriba, sec Junco Arriba	Arecibo	18.4549	-66.7373
Advanced Wireless Communications, Inc.	Carr. 348 KM 7.2 Interior Bo. Rosario	Mayaguez	18.1648	-67.0909
Advanced Wireless Communications, Inc.	Carr 3 Km 5.3 Int. sector Piedra Blanca, Bo. Jacanas	Yabucoa	18.0968	-65.908
Advanced Wireless Communications, Inc.	Carr 182 Km 7.2 Int. Bo. Quebradillas,	Yabucoa	18.0605	-65.9304
Advanced Wireless Communications, Inc.	Carr 102 Km 10.5 Bo. Guanajibo	Cabo Rojo	18.1428	-67.1764
Advanced Wireless Communications, Inc.	Carr. 111 KM 33.7, Inct. Lot 10 Bo Seburuquillo	Lares	18.3021	-66.8983
Advanced Wireless Communications, Inc.	Carr. 182 Km 7.2 Int. Bo. QQuebradillas,	Yabucoa	18.0605	-65.9304
Advanced Wireless Communications, Inc.	Carr 987 Km 3.8 Bo. Las Croabas, Urb. Lindo Monte	Fajardo	18.3588	-65.6482
Advanced Wireless Communications, Inc.	Carr 155 KM 26.5 Bo. Salto Sector Goli	Orocovis	18.2216	-66.3975
Advanced Wireless Communications, Inc.	Carr 155 km 39.5 Bo. Perchas	Morovis	18.2736	-66.3925
Advanced Wireless Communications, Inc.	Ave. FD Roosevelt # 1257 Esq de Diego, San Juan	San Juan	18.414	-66.0887
Advanced Wireless Communications, Inc.	Carr 121 Km 13.4 Lajas, PR	Lajas	18.03	-67.1194
AERCO BROADCASTING CORP	TWR 1 CALLE ANDINO FINAL VAN SCOY	TOA ALTA	18.3511	-66.2019
AERCO BROADCASTING CORP	TWR 2 CALLE ANDINO FINAL VAN SCOY	TOA ALTA	18.3514	-66.2025
Aerco Broadcasting Corp.	0.3 mi. west of Van Scoy	Van Scoy	18.3504	-66.2017
Aerco Broadcasting Corp.	0.3 mi. west of Van Scoy	Van Scoy	18.3501	-66.2009
AMERICA-CV STATION GROUP, INC.	0.8 KM EAST OF STATE ROAD # 186	CUBUY	18.2772	-65.8536
AMERICA-CV STATION GROUP, INC.	2.7 KW NW OF INTERSECTION OF LOCAL ROUTES 132 & 386	PENUELAS	18.0783	-66.7477
ANA G MENDEZ EDUCATIONAL FOUNDATION DBA = WMTJ TV CHANNEL 40	3.7 KM NW	PENUELAS	18.0786	-66.7481
ARA INTERNATIONAL DBA = FORMER WIOA	STOP 23 PONCE DE LEON AVE FIRST FEDERAL BLDG	SAN JUAN	18.4456	-66.0661
ARA INTERNATIONAL CORPORATION	PR RD 797 KM INT BO JAGUEYES	AGUAS BUENAS	18.2736	-66.0944
Arso Radio Company	PUERTO VIEJO PLAYA	PONCE	17.9791	-66.6129
Arso Radio Company	Puerto Viejo Playa	Ponce	17.979	-66.6132
ARSO RADIO CORP.	1150 GUANAJIBO AVE RD 102 KM 4 (TWR 1)	MAYAGUEZ	18.1894	-67.1567
ARSO RADIO CORP.	1150 GUANAJIBO AVE RD 102KM 4 (TWR 2)	MAYAGUEZ	18.1894	-67.1569
Arso Radio Corporation	RT 301 KM 6 HM 5 COMBATE WARD	CABO ROJO	17.9917	-67.1739

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Operational Communications					
Antenna Structure (FCC Registration) (656)					
ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE	
Arso Radio Corporation	TOP CERRO MARAVILLA	JAYUYA	18.1472	-66.5539	
ARSO RADIO CORPORATION	.2 MI SSE CERRO LA SANTA MOUNTAIN	CAYEY	18.1109	-66.0514	
ARSO RADIO CORPORATION	CALLE MIGUEL POU, FINAL, 3.0 KM NORTHWEST OF PONCE	PONCE	18.0258	-66.655	
Arso Radio Corporation	Town of Dorado	Dorado	18.4308	-66.2729	
Arso Radio Corporation	Town of Dorado	Dorado	18.4313	-66.2718	
ARZUAGA, JOSE J	HWY 446R	ISABELA	18.3903	-66.9955	
ARZUAGA, JOSE J	HWY 446R	ISABELA	18.3294	-66.6861	
ASN PR DEL ESTE DE LOS ADVENTISTAS DEL SPETIMO DIA	LOS BARROS 2 PEAK	LUQUILLO	18.3294	-65.6861	
ASOCIACION EVANGELISTICA CRISTO VIENE INC DBA = LA CADENA DEL MILAGRO	END OF RD 603 BO RONCADOR	UTUADO	18.2331	-66.7597	
AT&T CORP.	901 PONCE DE LEON AVENUE	SAN JUAN	18.455	-66.0808	
AT&T Mobility Puerto Rico Inc.	BARRIO ISLOTE	ARECIBO	18.4788	-66.6953	
AT&T Mobility Puerto Rico Inc.	CARR 349 KM 8.1 CERRO LAS MESAS	MAYAGUEZ	18.1848	-67.111	
AT&T Mobility Puerto Rico Inc.	ROUTE 155 BO PUGNADO AFUERA	VEGA BAJA	18.4399	-66.4061	
AT&T Mobility Puerto Rico Inc.	ROUTE 2	AGUADILLA	18.4415	-67.1468	
AT&T Mobility Puerto Rico Inc.	RD 2 BTEANIA 62 KM LA ALDEA	BARCELONE TA	18.4344	-66.6059	
AT&T Mobility Puerto Rico Inc.	OFF ROUTE 303	CABO ROJO	17.9924	-67.1346	
AT&T Mobility Puerto Rico Inc.	.1 MI NW BO TOMAS DECASTRO	CAGUAS	18.1913	-66.0235	
AT&T Mobility Puerto Rico Inc.	CARRAIZO ALTO	CARRAIZO	18.3231	-66.0323	
AT&T Mobility Puerto Rico Inc.	ROUTE 52 AND 184	CIDRA	18.1576	-66.1108	
AT&T Mobility Puerto Rico Inc.	CALLE VICTORIA 3	FAJARDO	18.3335	-65.6726	
AT&T Mobility Puerto Rico Inc.	INTERSECTION OF ROUTES 15 AND 3	GUAYAMA	17.9907	-66.1068	
AT&T Mobility Puerto Rico Inc.	BARRIO MARIANA; ROUTE 909	HUMACAO	18.1241	-65.8388	
AT&T Mobility Puerto Rico Inc.	CUATROCALLE	JUANA DIAZ	18.0482	-66.4444	
AT&T Mobility Puerto Rico Inc.	ROUTE 52 BETWEEN ROUTES 714 AND 715	SALINAS	18.0717	-66.2075	
AT&T Mobility Puerto Rico Inc.	ROUTE 604	MANATI	18.4349	-66.4901	
AT&T Mobility Puerto Rico Inc.	ROUTE 466	MOCA	18.4646	-67.0743	
AT&T Mobility Puerto Rico Inc.	ROUTE 2	CAMUY	18.4672	-66.8896	
AT&T Mobility Puerto Rico Inc.	ROUTE 966	RIO GRANDE	18.3611	-65.7911	
AT&T Mobility Puerto Rico Inc.	PR RD 101 KM 1.2	SAN GERMAN	18.0729	-67.0387	
AT&T Mobility Puerto Rico Inc.	ROUTE 690	VEGA ALTA	18.4304	-66.3384	
AT&T Mobility Puerto Rico Inc.	ROUTE 901	YABUCOA	18.0258	-65.8685	

Operational Communications				
Antenna Structure (FCC Registration) (656)				
ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE
AT&T Mobility Puerto Rico Inc.	RESIDENTIAL ROAD OFF OF ROUTE 982	CEIBA	18.2787	-65.6699
AT&T Mobility Puerto Rico Inc.	ROAD # 504 RIO CHIQUITO STREET PORTUGUES WARD	PONCE	18.0431	-66.6046
AT&T Mobility Puerto Rico Inc.	EL SAN JUAN HOTEL & CASINO AVE. ISLA VERDE 6063	CAROLINA	18.4435	-66.0181
AT&T Mobility Puerto Rico Inc.	ROUTE 3 BETWEEN HUCARES AND SANTIAGO Y LIMA	NAGUABO	18.1983	-65.7015
AT&T Mobility Puerto Rico Inc.	ITERGUI STREET IN SABANA ABAJO BARRIO	CAROLINA	18.4244	-65.9915
AT&T Mobility Puerto Rico Inc.	CARR 130 INT PUEBLOS AND CARRIZALES WARD	HATILLO	18.4773	-66.8098
AT&T Mobility Puerto Rico Inc.	Condominio Ciudad Feliz Caparra Street #71	Catano	18.4386	-66.122
AT&T Mobility Puerto Rico Inc.	Ave. Ponce de Leon # 901	San Juan	18.4548	-66.0805
Atlantic Communications	1.4 miles south of the intersection of Insular Route 186 and Insular Route 956	Juncos	18.2774	-65.8529
AURORA BROADCASTING CORPORATION	TWR 1 - LA ZARZA RD BARRIO PUENTE	CAMUY	18.4683	-66.8403
AURORA BROADCASTING CORPORATION	TWR 2 - LA ZARZA RD BARRIO PUENTE	CAMUY	18.4678	-66.8403
AURORA BROADCASTING CORPORATION	TWR 3 - LA ZARZA RD BARRIO PUENTE	CAMUY	18.4683	-66.8397
Banco Popular De Puerto Rico	CARR 176 KM. 1.6	SAN JUAN	18.3802	-66.0546
BESTOV BROADCASTING INC	GURABO	GURABO	18.2817	-65.9436
BESTOV BROADCASTING INC	12 KM WNW OF	PONCE	18.0225	-66.7263
BESTOV BROADCASTING INC DBA = WJAC AM	TWR 1 BO ORTIZ	TOA ALTA	18.3544	-66.2339
BESTOV BROADCASTING INC DBA = WJAC AM	TWR 2 BO ORTIZ	TOA ALTA	18.3539	-66.2336
BESTOV BROADCASTING INC OF PUERTO RICO	PEAK OF CERRO COROZAL	CEIBA	18.2786	-65.67
Bestov Broadcasting, Inc.	KM 1.4 RT 311 DELICIAS WARD	CABO ROJO	18.0995	-67.1544
BLANCO PI, WIFREDO G DBA = WISO AM	141 HOSTOS AVE	PONCE	17.9878	-66.6195
BORINQUEN BROADCASTING CO WVJP AM	CARR 789 K 0 H 7 BO TOMAS DE CASTRO 2	CAGUAS	18.2217	-66.0195
BORINQUEN BROADCASTING CO WVJP FM	1.77 KM NE OF KM 9.2 RD 185	RIA GRANDE	18.2761	-65.8522
Borinquen Broadcasting Co., Inc.	Sector Los Machos	Ceiba	18.2806	-65.6704
BROADCAST MEDIA SATELLITE	Lot 46, Angel Bounomo 46 Final Sector Tres Monjitas	Hato Rey	18.4286	-66.0687
BROADCAST MEDIA SATELLITE, INC.	NACHOS DE CEIBA AREA	CEIBA	18.2806	-65.6706
Cadena Estereotempo, Inc.	Amelia Industrial Park #42	Guaynabo	18.4161	-66.1205
Caguas Telecomm Services, Inc	D-12 3rd Street Hacienda San Jose	Ponce	18.0504	-66.5902
CALVARY EVANGELISTIC MISSION INC DBA = WBMJ AM RADIO STATION	TWR 1 BO CAMARONES CARR 20 KM 6.6	GUAYNABO	18.3481	-66.1128
CALVARY EVANGELISTIC MISSION INC DBA = WBMJ AM RADIO STATION	TWR 2 BO CAMARONES CARR 20 KM 6.6	GUAYNABO	18.3481	-66.1133
CALVARY EVANGELISTIC MISSION INC DBA = WBMJ AM RADIO STATION	RT 996 APPROX .3 KM NNE OF CENTER OF VILLA ESPERANZA	VIEQUES	18.0981	-65.47
Calvary Evangelistic Mission, Inc.	CARR 1 KM 112.0	JUANA DIAZ	17.9911	-66.4756
Calvary Evangelistic Mission, Inc.	Rt. 996 Approx. .3 km NNE of center of Villa Esperanza	Vieques	18.0989	-65.4711

Operational Communications					
Antenna Structure (FCC Registration) (656)					
ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE	
Caribbean Broadcasting Corporation	HWY 681 ISLOTE	ARECIBO	18.4792	-66.6875	
Caribbean Broadcasting Corporation	PR RD 602	UTUADO	18.2458	-66.8108	
CATHOLIC APOSTOLIC & ROMAN CHURCH WORO FM	1.6 KM S	COROZAL	18.2506	-66.3325	
CELLULAR COMMUNICATIONS OF PUERTO RICO INC DBA = CCPR INC	MONTE FLANENCO	CULEBRA	18.3256	-65.3011	
CENTENNIAL CELLULAR CORP	250 FT NW OF INT OF RT 110 & RT 465 .33 MI WNW OF INT OF RT 110 & RT 2 1.4 MI NE	CORRALES	18.4544	-67.0936	
CENTENNIAL CELLULAR CORP	1 MI SW	JUANA DIAZ	18.0428	-66.5239	
CENTENNIAL CELLULAR CORP	E SIDE OF RT 52 5 MI NNE	COCO	18.065	-66.2128	
CENTENNIAL CELLULAR CORP	.5 MI NW OF THE INT OF RT 2 & RT 384 2 MI SSW	PENUELAS	18.0189	-66.7372	
CENTENNIAL CELLULAR CORP	0.3 MI W OF RT 53 0.5 MI W	CEIBA	18.2675	-65.6561	
CENTENNIAL COMMUNICATIONS	0.4 MI W OF RT52 0.95 MI N OF INT OF RT52 & RT578	PONCE	18.02	-66.5839	
CENTENNIAL DE PUERTO RICO	BARRIO MAMEYES SEGUNDO CAMP ZARZAL	RIO GRANDE	18.3461	-65.7847	
CENTENNIAL DE PUERTO RICO LICENSE CORP	0.8 MI W OF RT 167 3.6 MI SW OF NARANJITO	BAYAMON	18.3419	-66.2113	
CENTENNIAL OF PUERTO RICO	SAN SEBASTIAN	SAN SEBASTIAN	18.3461	-66.9814	
CENTENNIAL OF PUERTO RICO	NAGUABO	HUCARES	18.1958	-65.6992	
Centennial Puerto Rico License Corp.	Arroyo	Pitahaya	17.9889	-66.0261	
Centennial Puerto Rico License Corp.	Hato Tejas	Bayamon	18.407	-66.1936	
Centennial Puerto Rico License Corp.	CIDRA PR 172	CIDRA	18.1797	-66.146	
Centennial Puerto Rico License Corp.	P.R. ROAD 3351, ROAD EL ITALIANO	MAYAGUEZ	18.2275	-67.1094	
Centennial Puerto Rico License Corp.	Tiburón Ward, Road #2	Barceloneta	18.4304	-66.5814	
Centennial Puerto Rico License Corp.	BARRIOS RISO, CARR. #834, SECTOR EL LABERINTO	GUAYNABO	18.3105	-66.0979	
Centennial Puerto Rico License Corp.	Urb. Fair View, Cupey	Río Piedras	18.3666	-66.0418	
Centennial Puerto Rico License Corp.	Parcela en el Barrio Hato Abajo	Arecibo	18.4541	-66.7516	
Centennial Puerto Rico License Corp.	State Rd. #2, Km. 80.6, Arecibo Hato Abajo	Arecibo	18.4802	-66.7601	
Centennial Puerto Rico License Corp.	Bo. Cerro Gorda	Aguada	18.3221	-67.1476	
Centennial Puerto Rico License Corp.	Cerillos Ward, Road #100	Cabo Rojo	18.1391	-67.1502	
Centennial Puerto Rico License Corp.	Rd. 842, Km. 1, Camino Dr. Medina, bo. Caimito Bajo	Rio Piedras	18.346	-66.0716	
Centennial Puerto Rico License Corp.	.9 miles SE of Intersection of Route 52& Route 712; 2 miles ENE of Coco	Salina	18.0272	-66.2291	
Centennial Puerto Rico License Corp.	La Pica Ward, Road 121	Sabana Grande	18.0588	-66.9577	
Centennial Puerto Rico License Corp.	.08 miles NW of Route 30, 1 mile NE of Caguas, PR	Gurabo	18.2468	-65.9979	

Operational Communications				
Antenna Structure (FCC Registration) (656)				
ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE
Centennial Wireless PCS License Corp. dba Centennial de Puerto Rico	Barrio Camaseyes, Bariada Caban Calle Tunel #71	Aguadilla	18.4741	-67.1362
Centennial Wireless PCS License Corp. dba Centennial de Puerto Rico	1.88 miles north of Route 10, 2 miles south of Route 52	Ponce	18.0383	-66.651
CENTRAL BEEPERS CORPORATION	ROAD #3 BO PALMER	RIO GRANDE	18.3839	-65.8297
CENTRAL BEEPERS CORPORATION	ROAD #2 KM 11.7 BAYAMON MEDICAL PLAZA	BAYAMON	18.3981	-66.1617
CENTRAL BEEPERS CORPORATION	ROAD # 162 KM 0.6 BO CUYON	AIBONITO	18.4139	-66.0942
CENTRAL BEEPERS CORPORATION	42 ARIZONA STREET BO TORTUGUERO	VEGA BAJA	18.4608	-66.41
CENTRAL BEEPERS CORPORATION	ROAD #152 KM 3.9 BO ANONES	NARANJITO	18.1181	-66.2467
CENTRAL BROADCASTING CORP DBA = WUPR	PR 10 KM 50 HM.5	UTUADO	18.2658	-66.7094
CLAMOR BROADCASTING NETWORK, INC. DBA = WJVP	MT FLAMENCO AREA	CULEBRA	18.325	-65.3056
COLON RADIO CORP	30.9NE TOWER ROAD 1 KM-92 HM-1	SALINAS	17.9754	-66.3032
COLON RADIO CORP	SW TOWER ROAD 1 KM-91 HM-1	SALINAS	17.9751	-66.3038
COMMUNICATIONS COUNSEL GROUP INC	TWR 1 HWY 833 .4 MI SE OF STA ROSA	BAYAMON	18.3566	-66.1337
COMMUNICATIONS COUNSEL GROUP INC	TWR 2 HWY 833 .4 MI SE OF STA ROSA	BAYAMON	18.3562	-66.1341
COMMUNICATIONS COUNSEL GROUP INC	TWR 3 HWY 833 .0.4 MI SE OF STA ROSA	BAYAMON	18.3566	-66.1348
COMMUNICATIONS COUNSEL GROUP INC	TWR 4 HWY 833 .4 MI SE OF STA ROSA	BAYAMON	18.357	-66.1344
COMMUNITY BROADCASTING INC	HACIENDA FELECITA .5 MI W	PATILLAS	18.0081	-66.0242
CONDOMINIO BELLO HORIZONTE	SAN MARTIN	BELLO HORIZONTE	18.3946	-66.0029
Condominio Vistas de San Juan	Ave. Manuel Fernandez Juncos #600	San Juan	18.4536	-66.0878
Corp. of The Seventh Day Adventists of West PR	WTPM-LP, SECTOR CUBA #1060	MAYAGUEZ	18.2426	-67.1585
CORPORATION OF THE SEVENTH DAY ADVENTISTS OF WEST PR	BO ATALAYA ST 412 K5 H5 INTERIOR	RINCON	18.3111	-67.1845
CORPORATION OF THE SEVENTH DAY ADVENTISTS OF WEST PR	SECTOR CUBA 1060	MAYAGUEZ	18.24	-67.1589
Corporation of The Seventh Day Adventists of West PR	Bo Atalaya St. 412 K5 H5 Interior	RINCON	18.3107	-67.186
Crown Castle International Corp of Puerto Rico	Between St Road #2 and St Road 127 Quebradilla Ward	Guayanilla	18.037	-66.8089
Crown Castle International Corp. De Puerto Rico	ROAD 143	JAYUYA	18.1724	-66.5917
Crown Castle International Corp. De Puerto Rico	ROAD 812	BAYAMON	18.293	-66.165
Crown Castle International Corp. De Puerto Rico	ROAD 184	CAYEY	18.1112	-66.0511
Crown Castle International Corp. De Puerto Rico	CARRETERA 474	BARRIO MORA	18.4794	-67.0146
Crown Castle International Corp. De Puerto Rico	CARRETERA 343	HORMIGUER OS	18.1529	-67.1378

Operational Communications				
Antenna Structure (FCC Registration) (656)				
ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE
Crown Castle International Corp. De Puerto Rico	CARRETERA 3 FINCA CLWMENCIA	SALINAS	17.9786	-66.2492
Crown Castle International Corp. De Puerto Rico	CARRETERA 3, KM 116.4	BARRIO JACABOA	17.9744	-65.9716
Crown Castle International Corp. De Puerto Rico	Condo Ponciana, Calle Marina #16	Ponce	18.0075	-66.6131
Crown Castle International Corp. De Puerto Rico	CARRETERA 713 KM 2.4	BARRIO CIMARRONA	17.9867	-66.1781
Crown Castle International Corp. De Puerto Rico	ROAD PR-2, KM 84.4 BO CARRIZALES	HATILLO	18.4818	-66.7785
Crown Castle International Corp. De Puerto Rico	Road P.R. 2 km. 167.4 Bo.	San German	18.1226	-67.0871
Crown Castle International Corp. De Puerto Rico	ROAD PR - 2 KM 138.9 BO. CERRO GORDO	AGUADA	18.3224	-67.1482
Crown Castle International Corp. De Puerto Rico	Carretera 2 KM 93 Interior	Camuy	18.4628	-66.8735
Crown Castle International Corp. De Puerto Rico	Road PR-2, KM 129.6 Bo Victoria	Aguadilla	18.4045	-67.1517
Crown Castle International Corp. De Puerto Rico	Road 129 Km. 9.5 Bo. Campo Alegre	Arecibo	18.3995	-66.7765
Crown Castle International Corp. De Puerto Rico	Road #467 Km. 5 interior	Aguadilla	18.4736	-67.1395
Crown Castle International Corp. De Puerto Rico	Road 3311, Km 2.3 Bo. Guanajibo	Cabo Rijo	18.1233	-67.1466
Crown Castle MU LLC	Penuelas	Penuelas	18.0143	-66.7341
Crown Castle MU LLC	Luis Montalvo Street, KM 1.5 Maravilla Ward, Las Marias	Las Marias	18.2698	-66.9934
Crown Castle MU LLC	Malpaso	Penuelas	18.0781	-66.7489
Crown Castle MU LLC	Carr. 311 Sector Conde Avila, Joyuda	Cabo Rojo	18.1249	-67.1694
Crown Castle MU LLC	State Rd. 156 KM 18.9 Quebrada Grande Ward, Tres Caminos Sector, Barranquitas	Barranquitas	18.1908	-66.2929
Crown Castle MU LLC	State Road 135, KM 78.9, Yayaes Ward, Adjuntas	Adjuntas	18.1709	-66.7507
Crown Castle MU LLC	State Road 182, KM 2.1 Calabaza Ward, Yabucoa	Yabucoa	18.055	-65.8967
Crown Castle MU LLC	State Rd. 120 Km 25.9 Interior, Maricao Afuera Ward, Achiotillo Sector, Maricao	Maricao	18.1969	-66.9842
Crown Castle MU LLC	State Road 538, Playa Ward, Malecon Sector, Santa Isabel	Santa Isabel	17.9536	-66.4021
Crown Castle MU LLC	State Road 143, Km 1.5, Portugues Ward, Portugues	Adjuntas	18.1507	-66.6868
Crown Castle MU LLC	Rd. 7760 Km 3.7 Emajagua Ward, Pra Sector, Maunabo	Maunabo	17.9955	-65.8882
Crown Castle MU LLC	Juncos	Juncos	18.2359	-65.932
Crown Castle PR LLC	Bo. Pedernales, Carr 308 KM 0.6 INT	Cabo Rojo	18.0704	-67.1569
Crown Castle PR LLC	Bo. Abras	Corozal	18.3481	-66.3158
Crown Castle PR LLC	Haciendas de San Lorenzo Lotes K3 K4	San Lorenzo	18.1917	-65.989
Crown Castle PR LLC	Bo. Dos Bocas	Trujillo Alto	18.3515	-66.001
Crown Castle PR LLC	Radicado Bo. Centro de Moca	Moca	18.4081	-67.1127
Crown Castle PR LLC	Carr. 7718 Km 0.5	ALBONITO	18.1246	-66.2607
Crown Castle PR LLC	Parcela No. 522F, Com. Junquitos Bo. Rios	Humacao	18.1458	-65.8063
Crown Castle PR LLC	PR-124 KM 2.6, CALLEJONES WARD	Lares	18.3058	-66.8673

Operational Communications					
Antenna Structure (FCC Registration) (656)					
ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE	
Crown Castle PR LLC	Rd. 170 Km. 2.1, Sector Cantera	Cayey	18.1044	-66.1745	
Crown Castle PR LLC	Terrenos De Rafael Fuster	Guayama	17.9911	-66.1066	
Crown Castle PR LLC	106.1 Carr. #115, Km. 15.1	Rincon	18.3532	-67.2424	
Crown Castle PR LLC	Avenida Nativo Alers	Aguada	18.3764	-67.1819	
Crown Castle PR LLC	Barrio Cerillos y Rio Jueyes	Salinas	17.9904	-66.3193	
Crown Castle PR LLC	Barrio Montalva	Guanica	17.9556	-66.9136	
Crown Castle PR LLC	Caguas	Caguas	18.2723	-66.0323	
Crown Castle PR LLC	Barrio Puerto Real	Vieques	18.1285	-65.4407	
Crown Castle PR LLC	Barrio Parguera, Carr. No. 342	Parguera	17.9774	-67.0338	
Crown Castle PR LLC	Carr. 351 Int, Km. 4.0, Barrio Miradero	Mayaguez	18.2275	-67.1098	
Crown Castle PR LLC	ARRIO SABANA GRANDE	Utua	18.2872	-66.6934	
Crown Castle PR LLC	State Road 535, KM 0.1 Rio Canas Ward, San Miguel	Juana Diaz	18.0342	-66.4744	
Crown Castle PR LLC	Los Colobos	Carolina	18.3769	-65.9359	
Crown Castle PR LLC	Barrio Cedro Abajo	Naranjito	18.298	-66.263	
Crown Castle PR LLC	Barrio Flamenco Sector Resaca	Dewey	18.3198	-65.2994	
Crown Castle PR LLC	AAA Site 40 Tr 04	Coamo	18.078	-66.3659	
Crown Castle PR LLC	Barrio Pasto Comunal	Las Palmas	17.9884	-66.0263	
Crown Castle PR LLC	5,800' Northwest of the intersection of Insular Route 3 & Insular Route 976	Fajardo	18.3302	-65.6713	
Crown Castle PR LLC	Bo. Beatriz	Cidra	18.1616	-66.1066	
Crown Castle PR LLC	East Northeast of the intersection of SR 129 and an un-named road.	Rafael Capo	18.4112	-66.7765	
Crown Castle PR LLC	Garrochales (Tiburones)	Arecibo	18.4348	-66.6042	
Crown Castle PR LLC	Naranjito	Naranjito	18.2497	-66.2847	
Crown Castle PR LLC	State Road 301, Km 7.4 Interior, Boqueron Ward, Combate Sector	Cabo Rojo	17.9902	-67.1809	
Crown Castle PR LLC	State Road 402 Km. 1.9 Las Marias Ward, Industrial Park	Anasco	18.2876	-67.1431	
Crown Castle PR LLC	Carr 144 Km. 5.4 Bo. Vegueta Zama Sector Caricaboa	Jayuya	18.2108	-66.5886	
Crown Castle PR LLC	West of Insular Route 374	Castaner	18.165	-66.8335	
Crown Castle PR LLC	West of SR 149, South of intersection with SR 633	Ciales	18.3553	-66.4719	
Crown Castle PR LLC	East of Route 10	Adjuntos	18.1148	-66.6589	
Crown Castle PR LLC	Carr. 185, Bo. Campo Rico	Canovanas	18.3184	-65.8969	
Crown Castle PR LLC	Carro 115 Bo. Caguabo	Rincon	18.31	-67.2154	
Crown Castle PR LLC	Carr 927 Rio Blanco	Naguabo	18.1986	-65.7662	
Crown Castle PR LLC	Avenida Conquistador, Barrio Quebrada	Fajardo	18.3551	-65.6474	
Crown Castle PR LLC	Carr. 307, Km. 8.4, Interior Camino Dr., Santiago Ruiz, Barrio Boqueron	Cabo Rojo	18.034	-67.1735	

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Operational Communications					
Antenna Structure (FCC Registration) (656)					
ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE	
Crown Castle PR LLC	0.01 mi West of State Route 110	Aguadilla	18.4818	-67.1084	
Crown Castle PR LLC	0.10 mi North of State Route 2	Tiburones	18.4348	-66.6036	
Crown Castle PR LLC	PR-174 Final Bo. Río Hondo 2	Comerio	18.1948	-66.2528	
Crown Castle PR LLC	Carr#2 Bo. Cocos Cacao Km. 98.7	Quebradillas	18.4578	-66.9216	
Crown Castle PR LLC	Av. El Lago Corner of Dr. Canca	Levittown	18.45	-66.1885	
Crown Castle PR LLC	Carr#1 Km 2700 sector El Cantinfla Bo Río	Río Canas	18.2983	-66.0606	
Crown Castle PR LLC	PR-805 Km 4.5 Bo. Palos Blancos Section La Cuchilla	Corozal	18.2831	-66.3063	
Crown Castle PR LLC	PR-174 Km 19.1 Bo. Mulitas Section La Charca	Aguas Buenas	18.2615	-66.1394	
Crown Castle PR LLC	Carr PR 844 KM 1.5 Cupey Abajo Ward	Río Piedras	18.3657	-66.049	
Crown Castle PR LLC	State Rd #842 Carmito Ward	Río Piedras	18.3463	-66.0716	
Crown Castle PR LLC	State Rd 158 Km 0.30 URB Industrial	Canovanas	18.3722	-65.9012	
Crown Castle PR LLC	Carr #183 Km 21.5 Las Piedras or Carr #198 Km 22.0 Bo. Montores #1	Las Piedras	18.1795	-65.8751	
Crown Castle PR LLC	Los Rodríguez Carr #1 Km Bo. Beatriz Sector 49.8	Cayey	18.1563	-66.0836	
Crown Castle PR LLC	PR-149 Km 0.5 Bo. Pastillo Juana Díaz	Pastillo	18.0094	-66.4941	
Crown Castle PR LLC	Carr PR 2 Km 27.0 Bo. Espinosa	Vega Alta	18.4137	-66.2946	
Crown Castle PR LLC	Carr. PR 3, KM. 57.2, Bo. Quebrada Seca	Ceiba	18.2436	-65.6602	
Crown Castle PR LLC	Canabon Ward PR-156, KM 55.5 Pozo Dulce Sector	Caguas	18.2382	-66.0798	
Crown Castle Puerto Rico	Road #130, Ramal 492, KM 4.9 Sect. Rate Delgado, Bo. Corcovada	Hatilla Rural	18.4611	-66.7904	
Crown Communication Inc.	Road #569	Orocovis	18.2196	-66.4121	
Crown Communication Inc.	Road #155, Km 46.3	Morovis	18.3183	-66.3989	
Crown Communication Inc.	Road 561, Km.1.8 Bo. Vacas, Sector Vista Alegre	Villalba	18.1419	-66.4776	
Crown Communication Inc.	Road 115, Km 14.7 Bo. Ensenada	Rincon	18.3499	-67.2478	
Crown Communication Inc.	Road #140 Km 0.5 Interior	Barceloneta	18.4447	-66.5437	
Crown Communication Inc.	Rayo Plata Road , Rayo Ward	Sabana Grande	18.0591	-66.958	
Crown Communication Inc.	Road 113 km 8.5 interior	Quebradillas	18.4809	-66.9479	
CROWN COMMUNICATIONS INC	State Road No.466, Ceiba Award	Isabela	18.4631	-67.0764	
CTS Telecom Services, Inc	Carr. 467 KM. 1.4 Barrio Borinquen	Aguadilla	18.4582	-67.1485	
CTS Telecom Services, Inc	2.Barrio Quebrada Grande	Trujillo Alto	18.3269	-65.9674	
CTS Telecom, Inc	Carr. 169, KM 4.8 Bo. Los Frailes	Guaynabo	18.3641	-66.113	
CTS Telecom, Inc	KM 1, PR-802 Int. Dos Bocas	Trujillo Alto	18.3438	-65.9802	
CTS Telecom, Inc	Carr PR-307 KM 1.4 Bo Guaniquilla	Cabo Rojo	18.0546	-67.1847	
d/b/a Schafer & Brown Electronics	Cerro Tres Dias	Jayuya	18.1541	-66.5624	

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Operational Communications					
Antenna Structure (FCC Registration) (656)					
ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE	
DBA MOROVIS RADIO ASSOCIATES	AVE. LOS MEROS FINAL, SECTOR LA PLAYA	PONCE	17.9822	-66.6363	
dba Morovis Radio Associates	Southwest of intersection PR-114 & PR-343, close to Urb. Valle Hermoso	Hormigueros	18.1527	-67.1518	
dba Morovis Radio Associates	Southwest of intersection PR-114 & PR-343, close to Urb. Valle Hermoso	Hormigueros	18.1527	-67.1518	
DE ARELLANO, ALFREDO R DBA = FINCA LA IGUALDAD	PONCE DE LEON PARQUE ST	SAN JUAN	18.4456	-66.0661	
DEL PUEBLO RADIO CORPORATION	WEST TWR HWY 119 KM 6.6	CAMUY	18.4706	-66.8619	
DEL PUEBLO RADIO CORPORATION	EAST TWR HWY 119 KM 6.6	CAMUY	18.4703	-66.8608	
DTI COMMUNICATIONS, INC	CAIMITAL ALTO WARD	MOCA	18.4453	-67.1095	
DTI Communications, Inc.	Coto Laurel Ward	Ponce	18.0396	-66.5464	
DTI COMMUNICATIONS, INC.	PONCE DE LEON AVE., HATO REY WARD	SAN JUAN	18.4199	-66.056	
DTI COMMUNICATIONS, INC.	CANTERA SECTOR, SANTURCE WARD	SAN JUAN	18.4347	-66.0444	
DTI COMMUNICATIONS, INC.	HATO REY NORTE WARD	SAN JUAN	18.4278	-66.0656	
DTI Communications, Inc.	Gianna Laural Apts. Building	Ponce	18.0128	-66.5979	
EBENEZER BROADCASTING GROUP INC	SR 185 KM 9.2 CUBUY	CANOVANAS	18.277	-65.8522	
El Monte Properties SE	650 Munoz Rivera	Hato Rey	18.4101	-66.0569	
ESTRADA, JORGE L DBA = COMMUNICATIONS TOWER SERVICES	1.1 MI NE RD 186 KM 9.2 BO CUBUY	CANOVANAS	18.277	-65.8531	
FMR Investment, Inc.	Proposed tower will be located on a land parcel located on Road 110, at a distan	Aguadilla	18.5057	-67.1016	
Global Tower, LLC	CANDELARIA WARD, STREET 865, KM. 2.9	TOA BAJA	18.4176	-66.2322	
Global Tower, LLC	Carretera PR-167, KM 17.8	Bayamon	18.357	-66.1898	
Global Tower, LLC	CARRETERA PR-173, KM 9.5	GUAYNABO	18.3123	-66.0911	
Global Tower, LLC	WITHIN CITY LIMITS	TOA BAJA	18.4066	-66.2051	
Global Tower, LLC	ESCUELA DE DERECHO	HATO REY	18.4303	-66.0734	
Global Tower, LLC	Calle Font Martelo #24	Humacao	18.1505	-65.8299	
Global Tower, LLC	Carr. 780, Km. 0.3 Sector Manuel Reyes	Comerio	18.2337	-66.2512	
Global Tower, LLC	Tower Bo. Masa Gurabo	Gurabo	18.2936	-65.9766	
Global Tower, LLC	Playa Cocal Yabucoa Site	Yabucoa	18.0193	-65.8574	
Global Tower, LLC	Lajas/ Cabo Rojo 2 Site	Cabo Rojo	17.9975	-67.0168	
Global Tower, LLC	Valle Lajas I	Lajas	17.9907	-66.9606	
Global Tower, LLC	Site Rio Blanco	Naguabo	18.2069	-65.7923	
Global Tower, LLC	Palmas del Mar Yabucoa	Yabucoa	18.074	-65.8103	
Global Tower, LLC	Canovanas Sur	Canovanas	18.2743	-65.9119	
Global Tower, LLC	Bayamon Military site	Bayamon	18.4191	-66.187	
Global Tower, LLC	Vaca Brava	Corozal	18.2521	-66.322	
Global Tower, LLC	Yabucoa Los Pinos	Yabucoa	18.0871	-65.8317	

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Operational Communications					
Antenna Structure (FCC Registration) (656)					
ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE	
Global Tower, LLC	Humacao Toll	Humacao	18.1649	-65.7994	
Global Tower, LLC	Plaza Aquarium Shopping Center, Road 165, int. Road 159	Toa Alta	18.3425	-66.2778	
Global Tower, LLC	Soto Valle Street, Pueblo Ward	Isabela	18.4962	-67.0235	
Global Tower, LLC	Juana Diaz, PR	Juan Diaz	18.0361	-66.4414	
Global Tower, LLC	Caguas	Caguas	18.034	-65.8372	
Global Tower, LLC	Carr. 865 Km 005, Hm 183	Toa Baja	18.4144	-66.2076	
Global Tower, LLC	Carr 183, KM 4, HM 9 sector La Loma, Bo. Tomas de Castro II	Caguas	18.2053	-66.0044	
Global Tower, LLC	Carr 185, km 3.2 Sector Toma de Agua de Bo Campo Rico	Canovanas	18.35	-65.904	
Global Tower, LLC	Santa Juanita CC-14 Bayamon, PR	Bayamon	18.3673	-66.1626	
Global Tower, LLC	KM 1.3 sector La Tosca, Coamo	Coamo	18.0694	-66.3886	
Global Tower, LLC	Carr. 169 Km. 2.2 Barrio Camarones	Guaynabo	18.3461	-66.11	
Global Tower, LLC	Carr Pr 7226-3 Bo. Rabanal sector La Loma	Aibonito	18.1369	-66.2447	
Global Tower, LLC	Carr 940 Km 2, Hm 5, Bo Juan Martin, Sector Martin, Sector Boria	Luquillo	18.3513	-65.6909	
Global Tower, LLC	Bo Santa Elena St 1 Esq 12	Bayamon	18.3901	-66.185	
Global Tower, LLC	Ave Degetau, Esq. Gautier Benitez	Caguas,	18.2224	-66.038	
Global Tower, LLC	Carr 3 Km. 14 H7 Guayama, PR	Guayama	17.9689	-66.138	
GOMEZ, ANDRES DBA = A B G REALTY INVESTMENT	FLAMBOYAN 3 GARDEN HILLS	GUAYNABO	18.4164	-66.1436	
Highway and Transportation Authority of Puerto Rico (HTA)	Tren Urbano Operations Control Center, 60 mts. WEST of intersection of Rt. 19	San Juan	18.3906	-66.1045	
HIMA San Pablo Fajardo	Ave. General Valero 194	Fajardo	18.3365	-65.6557	
HQ 103, Inc.	0.1 mi. W. from intersection of Rd. PR #119 & Hwy. PR#2	Camuy	18.4774	-66.8546	
HQ 103 INC	URBANIZACION EL MAESTRO	CAMUY	18.477	-66.8518	
HQ 103 INC	5.6 KM NE	UTUADO	18.2908	-66.6586	
HQ 103 INC	5.6 KM NE	UTUADO	18.2908	-66.6586	
HQ 103, Inc.	Utuaado, Puerto Rico	Utuaado	18.2889	-66.6603	
INNOVATION WIRELESS GROUP	DE DIEGO ST 55 EAST CPR BLDG	MAYAGUEZ	18.2026	-67.139	
InSite Towers, LLC	9.4 NAUTICAL MILES SE OF LUIS MUNOZ MARIN INT L AIRPORT	GUARBO	18.2796	-65.9433	
InSite Towers, LLC	State Road PR-816, Km. 8.4, Barrio Nuevo Sector, Cedrito Ward	Comerio	18.2593	-66.1961	
InSite Towers, LLC	tbd	Naranjito	18.297	-66.2177	
International Broadcasting Corporation	PR RD 102 KM 5.7 INTERIOR	MAYAGUEZ	18.1814	-67.1675	
International Broadcasting Corporation	HWY 874 .7 KM N OF HWY 3	CANOVANAS	18.3839	-65.9208	
INTERNATIONAL BROADCASTING CORPORATION DBA = W A V B AM	TWR 1 - ROAD 306 KM 0.7 PALMAREJO WARD	LAJAS	18.0347	-67.0828	
INTERNATIONAL BROADCASTING CORPORATION DBA = W A V B AM	TWR 2 - ROAD 306 KM 0.7 PALMAREJO WARD	LAJAS	18.0342	-67.0822	

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Operational Communications					
Antenna Structure (FCC Registration) (656)					
ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE	
INTERNATIONAL BROADCASTING CORPORATION DBA = W M T 1 AM	ROAD 155 RAMAL 634 KM 0.5	MOROVIS	18.3403	-66.4186	
ISABELA BROADCASTING INC DBA = WKSA FM	APPROX 3.23 NAUT MI S OF RAFAEL HERNANDEZ ARPT	AGUADILLA	18.4417	-67.1467	
John Javi Corp	CERRO COLLORES 937 KM 0.5 CAMINO MUNICIPAL FINAL	LAS PIEDRAS	18.1928	-65.8389	
John Javi Corp	CERRO VIVIANA 183 INT 919	LAS PIEDRAS	18.1492	-65.9286	
John Javi Corp	Cerro Collores 937 Rd Km 0.5 Municipal Road End	Las Piedras	18.1911	-65.8381	
Kelly Broadcasting System Corporation	State Road 651, 1.8 miles SW of Arecibo, Puerto Rico	Arecibo	18.4536	-66.7396	
La Gigante Siembra	Condominium Atlantico on Naranial Street	Levittown, Toa Baja	18.4466	-66.1735	
LA MAS Z RADIO, INC.	TWR 1 NE JCT HWY 2 & 109	ANASCO	18.275	-67.1672	
LA MAS Z RADIO, INC.	TWR 2 NE JCT HWY 2 & 109	ANASCO	18.2753	-67.1658	
LA VOZ EVANGELICA DE PUERTO RICO, INC	INT ROAD 608-614	CIALES	18.2576	-66.5371	
LARES BROADCASTING CORP	AVE LOS PATRIOTAS	LARES	18.2931	-66.8967	
Liberty Cablevision of Puerto Rico, Inc.	RT 2 3300 FT E INT RT 689	VEGA BAJA	18.4411	-66.3547	
LIBERTY CABLEVISION OF PUERTO RICO, INC.	HUMACAO HEADEND	HUMACAO	18.1394	-65.831	
LINCOLN REALTY INC	1252 PONCE DE LEON AVENUE	HATO REY	18.4255	-66.0582	
Madifide, Inc.	CALLE INDO 1592 EL CEREZAL	SAN JUAN	18.3813	-66.0666	
MANATI RADIO CORPORATION	HWY 685 .3 MI N OF HWY 2	MANATI	18.4383	-66.4981	
MARANATHA CHRISTIAN NETWORK	HWY 167 KM 18.9	BAYAMON	18.3686	-66.1836	
MINISTERIO RADIAL CRISTO VIENE PRONTO	.32 KM SE FROM CERRO LA SANTA	CAYEY	18.1106	-66.0517	
MOROVIS RADIO ASSOCIATES	PR ROAD 349 3.4 NEAR BELLA VISTA HOSPITAL	MAYAGUEZ	18.1861	-67.1159	
MOROVIS RADIO ASSOCIATES	ROAD 4443 km. 1.2 BARRIO PALMAR	AGUADILLA	18.4006	-67.1464	
MOROVIS RADIO ASSOCIATES WISO AM	ROAD 4443 KM 1.2 BO PALMAR	AGUADILLA	18.4005	-67.146	
MOROVIS RADIO ASSOCIATES WISO AM	PR 349 KM 3.4 NEAR BELLA VISTA HOSPITAL	MAYAGUEZ	18.186	-67.1155	
MUNIZ, LUCAS T DBA = WLUZ AM	JADE ST SANTA JUANITA SEC 9	BAYAMON	18.3589	-66.1581	
MUNIZ, LUCAS T DBA = WLUZ AM	JADES ST SANTA JUANITA SEC 9	BAYAMON	18.3583	-66.1583	
NC and Partners Corporation	Carr 940 Km. 4.2	Fajardo	18.3442	-65.6766	
NC and Partners Corporation	Barrio Mabu Chiquito Interior	Humacao	18.1597	-65.8221	
Nec Comm. Corp.	ROAD 43	VILLALBA	18.1531	-66.5558	
New Comm 2000 Corporation	Avenida Miramar Las Palmas 1048	San Juan	18.4484	-66.0806	
New Comm 2000 Corporation	Carr. 795 Barrio Bairoa	Aguas Buenas	18.2656	-66.0906	
New Comm 2000 Corporation	Carr. 100Cuatro Caminos Boqueron	Cabo Rojo	18.0495	-67.162	
New Comm 2000 Corporation	Villa Panamericana, Calle D, Urb. Villa Prades	San Juan	18.412	-66.0272	

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Newcomm Wireless Services, Inc.	Monterey	Dorado	18.4141	-66.2953
NOTI RADIO BROADCASTING (WAPA)	ROAD #2 NEXT TO ARECIBO RIVER	ARECIBO	18.4697	-66.7093
NOTIRADIO BROADCASTING WAPA	ROAD 567 KM 1 2 FROM INT 155 BO SALTO	OROCOVIS	18.2044	-66.4134
OCHOA BROADCASTING CORPORATION	State Road #3, Km. 79.5	Humacao	18.145	-65.8132
OCHOA BROADCASTING CORPORATION	2 KM SW OF	PUNTA SANTIAGO	18.1511	-65.7743
PAN CARIBBEAN BROADCASTING CORPORATION	ST RD 987 BARRIO LAS CROABAS	FAJARDO	18.3608	-65.6397
PERRY BROADCASTING SYSTEMS	TWR 1 - ROAD 306 KM 0.7 PALMAREJO WARD	LAJAS	18.0347	-67.0828
PERRY BROADCASTING SYSTEMS	TWR 2 - ROAD 306 KM 0.7 PALMAREJO WARD	LAJAS	18.0342	-67.0822
PONCE BROADCASTING CORPORATION DBA = WKFE	BO PALOMAS	YAUCO	18.0206	-66.8681
PONCE BROADCASTING CORPORATION DBA = WLEY AM	BO MONTELLANO	CAYEY	18.1133	-66.1408
PONCE BROADCASTING CORPORATION DBA = WLEY AM	RIO CHIQUITO GLENVIEW	PONCE	18.0439	-66.6042
PORTORICAN AMERICAN BROADCASTING COMPANY INC	65 DE INFANTERIA LOS PAMPANOS RD	PONCE	17.9908	-66.63
PR COMMONWEALTH HIGHWAY AUTHORITY	Ave Central Juanita, Luchetti	Bayamon	18.4172	-66.146
PR Site Development LLC	Cidra	Cidra	18.1898	-66.1597
PR Site Development LLC	Mercedita	Ponce	18.0411	-66.5255
PR Site Development LLC	Aguas Buenas	Aguas Buenas	18.289	-66.1508
PR Site Development LLC	Miranda	Morovis	18.3876	-66.4211
PR Site Development LLC	Sabana Hoyos	Utua	18.3792	-66.6902
PR Site Development LLC	Yeguada	Vega Baja	18.4777	-66.4188
PR Site Development LLC	La Sierra	Caguas	18.2095	-66.1025
PR Site Development LLC	Patillas	Patillas	17.9971	-66.0202
PR Site Development LLC	Carretera 134, km 26.3, Bo. Bayaney, Sector El Mango	Hatillo	18.3548	-66.8149
PR Site Development LLC	Bo.	Aguadilla	18.4818	-67.0966
PR Site Development LLC	Street PR-111, Km. 30.4, Juncal Ward, Pueblito Sector	San Sebastian	18.3196	-66.9244
PR Site Development LLC	Road 526, Int. Road 6603, Km. 0.6, Emajagual Sector, Tanama Ward	Adjuntas	18.2223	-66.7428
PR Site Development LLC	West Main Ave. #501, Sierra Bayamon, Plaza del Sol Shopping Center,	Bayamon	18.4078	-66.1636
PR Site Development LLC	Road #723, Km. 0.1, Asomante Ward,	Aibonito	18.1157	-66.2975
PR Site Development LLC	State Road #127, Km. 0.1, Cambalache Sector, Jacana Ward.	Yauco	18.0389	-66.8421
PR Site Development LLC	Road#187, Km. 16.5, Torrecilla Ward,	Loiza	18.4409	-65.8894
PR Site Development LLC	Road 187, km. 6.6, Torrecilla Baja Ward	Loiza	18.4533	-65.9745
PR Site Development LLC	STATE ROAD #2 AND STATE ROAD #361, KM.0.3, CAIN ALTO WARD	San German	18.1	-67.0421

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ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE	
PR Site Development LLC	Road # 982 Km. 0.5, Quebrada Vuelta Ward	Fajardo	18.292	-65.6441	
PR Site Development LLC	Proposed project will be located on Road #681, Km. 9.2, Islote Ward, Caracol Sec	Arecibo	18.4883	-66.6294	
PR Site Development LLC	HACIENDA SAN FRANCISCO, URB. CAMINO REAL AVE. ORLANDO LOPEZ	SABANA GRANDE	18.0757	-66.9648	
PR Site Development LLC	Carretera #111 KM 9.5 Bo. Voladora	Moca	18.3724	-67.0709	
PR TDC LLC	State Road 652 KM 0.4	Arecibo	18.4368	-66.7188	
PR TDC LLC	SR PR-152 Int. 749 KM .01	Barranquitas	18.2154	-66.2827	
PUERTO RICO AQUEDUCT & SEWER AUTHORITY	PONCE DE LEON #7 VIEJO SAN JUAN	SAN JUAN	18.4624	-66.1024	
PUERTO RICO ELECTRIC POWER AUTH	P.R.E.P.A. DESTREET OFFICE	ARECIBO	18.4677	-66.7067	
PUERTO RICO ELECTRIC POWER AUTHORITY	FAJARDO POWER SUBSTATION RD 195 & 487	FAJARDO	18.3292	-65.6469	
Puerto Rico Electric Power Authority	ISABEL SEGUNDA	VIEQUES	18.1453	-65.4413	
PUERTO RICO ELECTRIC POWER AUTHORITY	ATALAYA SUBSTATION RAMAL RD NO 411 BO ATALAYA	MAYAGUEZ	18.3108	-67.1818	
PUERTO RICO ELECTRIC POWER AUTHORITY PREPA	AGUIRRE STEAM POWER PLANT	SALINAS	17.9517	-66.2283	
Puerto Rico Ports Authority	Rafael Hernandez Airport	Aguadilla	18.4948	-67.1294	
PUERTO RICO PUBLIC BROADCASTING	570 HOSTOS AVE	HATO REY	18.4127	-66.0618	
PUERTO RICO PUBLIC BROADCASTING CORP	NE TWR BO PALMAS INT RD 22 & RD 5	CATANO	18.4247	-66.1417	
PUERTO RICO PUBLIC BROADCASTING CORP	SE TWR BO PALMAS INT RD 22 & RD 5	CATANO	18.4239	-66.1411	
PUERTO RICO PUBLIC BROADCASTING CORP	BO TUNAS 2.5 KM SE	CABO ROJO	18.0678	-67.1339	
PUERTO RICO PUBLIC BROADCASTING CORP	MONTE DEL ESTADO PEAK ST RD 120	MARICAO	18.148	-66.9829	
PUERTO RICO PUBLIC BROADCASTING CORP	BO LA MESA RD 795 2.3 KM NE	AGUAS BUENAS	18.265	-66.085	
PUERTO RICO TELEPHONE COMPANY	PEDRO MARQUEZ ST	CULEBRA	18.3028	-65.3022	
PUERTO RICO TELEPHONE COMPANY	ST RD 510 BO SABANA LLANA	JUANA DIAZ CELLULAR	18.0411	-66.5244	
PUERTO RICO TELEPHONE COMPANY	BO TANAMA	ARECIBO CELLULAR	18.4236	-66.7175	
PUERTO RICO TELEPHONE COMPANY	ST RD 443 KM 0.3 INTERIOR CAIMITAL BAJO	AGUADILLA	18.4307	-67.1305	
PUERTO RICO TELEPHONE COMPANY	ST RD 3 K139.7 BO CALABAZA	YABUCOA	18.0367	-65.925	
PUERTO RICO TELEPHONE COMPANY	POWER ST URB SANTA MARIA	PONCE	18.0047	-66.6142	
PUERTO RICO TELEPHONE COMPANY	ST MARTINEU NR ST BUENA VISTA	VIEQUAS	18.1289	-65.4753	
PUERTO RICO TELEPHONE COMPANY	MORALES ST NEAR ST RD 2 HATO TEJAS	BAYAMON	18.4072	-66.1806	
PUERTO RICO TELEPHONE COMPANY	ST RD 3 & UNIVERSITY AVE	HUMACAO	18.1492	-65.8192	
Puerto Rico Telephone Company	State Road #108 km 2.2	Mayaguez	18.2197	-67.1404	
Puerto Rico Telephone Company	state Rd. 194 Km. 0.3	Fajardo	18.3361	-65.6529	
Puerto Rico Telephone Company	MONTES DE SAN PATRICIO NEAR ENSENADA ST	SAN JUAN	18.4119	-66.0938	

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ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE
PUERTO RICO TELEPHONE COMPANY, INC	14.48 KM W FAJARDO EL YUNQUE	RIO GRANDE	18.3081	-65.7944
PUERTO RICO TELEPHONE COMPANY, INC	SR #2, 102.3 Bo. Terranova	Quebradillas	18.4822	-66.941
PUERTO RICO TELEPHONE COMPANY, INC	1.5 miles W of Fajardo	Fajardo	18.3336	-65.6724
PUERTO RICO TELEPHONE COMPANY, INC	Bo. La Mesa	Mayaguez	18.1802	-67.0943
PUERTO RICO TELEPHONE COMPANY, INC	City of Patillas	Patillas	17.9843	-65.997
PUERTO RICO TELEPHONE COMPANY, INC	Road #2, KM 59.7, Interior Bo. Florida Adentro	Barceloneta	18.4265	-66.582
PUERTO RICO TELEPHONE COMPANY, INC	Ave. Los Robles Carr. 460 Cuesta Vieja, Bo. Camaceyes	Aguadilla	18.4449	-67.151
PUERTO RICO TOWER CO INC	Barrio Florida adentro, sector El Junco	Florida	18.3654	-66.5653
PUERTO RICO TOWER CO INC	Barrio Guaraguao	Adjuntas	18.1147	-66.6588
Puerto Rico Tower Co., Inc.	Playa de Ponce	Ponce	17.9829	-66.6174
Puerto Rico Tower Co., Inc.	Calle 1 Blq. cc	Manati	18.4286	-66.478
QMC Telecom, LLC	Road PR-670, Km. 7.5, Pugnado Afuera Ward	Vega Baja	18.4316	-66.422
QMC TELECOM, LLC	Carr. PR-423, Km. 0.3, Bo. Alto Sano - Sonador WARD	SAN SEBASTIAN	18.3078	-67.028
QMC TELECOM, LLC	Carr. PR-811, Km. 4.0, interior, Bo. Palos Blancos,	COROZAL	18.3073	-66.2895
QMC TELECOM, LLC	Carr. PR-931, Km. 5.1 interior, Camino Los Flamboyanes, Sector Cielito, Bo. Nava	GURABO	18.2304	-65.9924
QMC TELECOM, LLC	Carr. PR-805, Km. 0.9, Bo. Negros,	COROZAL	18.2884	-66.3437
QMC TELECOM, LLC	Carr. PR-828, Km. 5.0 interior, Sector Los Rodriguez, Bo. Pitas,	TOA ALTA	18.3546	-66.211
QMC TELECOM, LLC	Carr. PR-694, Bo. Maguayo,	DORADO	18.4204	-66.2687
QMC Telecom, LLC	Road PR-7725, Km. 6.6, Llanos Ward	Aibonito	18.1556	-66.2753
QMC TELECOM, LLC	STATE ROAD NO. PR-805, KM. 0.9, NEGROS WARD	COROZAL	18.2884	-66.3437
QMC TELECOM, LLC	STATE ROAD NO. PR-159, KM. 10.50, INT., PADILLA WARD	COROZAL	18.3262	-66.3401
QMC Telecom, LLC	Road PR-454, Km. 4.4 Interior, Callejones Ward	Lares	18.3345	-66.856
QMC Telecom, LLC	State Road PR-457, Km. 2.9, Planas Ward	Isabela	18.3864	-66.9495
QMC Telecom, LLC	Road PR-459, Km. 13.2, Jobos Ward,	Isabela	18.4981	-67.0531
QMC Telecom, LLC	State Road PR-14, Cerrito Sector, Jacaguas Ward,	Juana Diaz	18.0586	-66.5261
RAAD BROADCASTING CORPORATION	SECTOR LA CUARTA BO NUEVO	BAYAMON	18.2831	-66.18
RADIO BORINQUEN INC WBQN	TWR 1 1.3 MI SW INT RT 3 & 140	BARCELONE TA	18.4367	-66.5519
RADIO BORINQUEN INC WBQN	TWR 2 1.3 MI SW INT RT 3 & 140	BARCELONE TA	18.4369	-66.5517
RADIO BORINQUEN INC WBQN	TWR 3 1.3 MI SW INT RT 3 & 140	BARCELONE TA	18.4372	-66.5522
RADIO EMANUEL INC	BO CEIBA SUR CARR 198 KM 16.4	JUNCOS	18.2124	-65.9074

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ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE
RADIO EMANUEL INC	BO CEIBA SUR CARR 198 KM 16 4	JUNCOS	18.2127	-65.9085
RADIO KADENA INFORMATIVA INC DBA = SUPER KADENA NOTICIOSA WPRP AM	PONCE BT PASS RD NO 2	PONCE	17.9942	-66.6244
RADIO KADENA INFORMATIVA INC DBA = SUPER KADENA NOTICIOSA WSKN AM	W SIDE OF NEW RD .3 MI BOUNDARY (TWR 1)	CATANO	18.4311	-66.1247
RADIO KADENA INFORMATIVA INC DBA = SUPER KADENA NOTICIOSA WSKN AM	W SIDE OF NEW RD .3 MI BOUNDARY (TWR 2)	CATANO	18.4314	-66.1244
RADIO REDENTOR INC	0.5 MILES NORTH OF LA PLAYA	UTUADO	18.2895	-66.6604
RADIO REDENTOR, INC.	WERR(FM) STUDIOS: CALLE LODI #583, URB. VILLA CAPRI, RIO PIEDRAS	SAN JUAN	18.3961	-66.0288
RADIO SOL 92, WZOL, INC.	MONTE FLANENCO	CULEBRA	18.3256	-65.3011
RADIO SOL 92, WZOL, INC.	501 JULIO ANDINO	SAN JUAN	18.4066	-66.0296
RADIO STATION WKJB AM FM INC DBA = WKJB AM	637 S SANTA TERESA DE JOURNET AVE	MAYAGUEZ	18.1669	-67.1506
RADIO VIDA INC	.32 KM SE FROM CERRO LA SANTA	CAYEY	18.1114	-66.0517
RADIO VIDA INC	RD PR 875 KM 1.7	CAROLINA	18.3947	-65.9353
RADIO X BROADCASTING CORPORATION	NW OF COROZO NEAR INSULAR RTS 301 & 303	CABO ROJO	17.9917	-67.1856
RAMON RODRIGUEZ & ASSOCIATES WCFI FM	1.1 KM N OF COROZO	CABO ROJO	17.9917	-67.1856
REd Tower Corp	Mayaguex Los Velez	Mayaguez	18.1745	-67.1499
Red Tower, Corp	Carr. 173 Km. 9.8 Bo. Mulas	Aguas Buenas	18.2418	-66.1236
Red Tower, Corp	Carr. 159 Km. 3.9, Bo. Unibon	Morovis	18.3328	-66.3828
Red Tower, Corp	Carr. 785 Km. 2.0 Bo. Canaboncito, Sector Las Hormigas	Caguas	18.2184	-66.0869
Red Tower, Corp	Carr. 182 Km. 9.0 Sector Las Panas, Bo. Guayabota	Yabucoa	18.0898	-65.9446
Red Tower, Corp	Carr. 916, Int. 917, Km. 9.5 Bo. Montones	Las Piedras	18.1395	-65.9206
Red Tower, Corp	Carr.181 Sector Chilo G=mez, Bo. Guayabota	Yabucoa	18.0839	-65.9932
Red Tower, Corp.	Carr. 9912 Km.0.1 Bo. Cayaguas, Camino Los Col=n	San Lorenzo	18.1355	-65.9744
Red Tower, Corp.	State Road 124, Km. 2.5	San Sebastian	18.3452	-67.0001
Red Tower, Corp.	State Road 119 Km 10.3	Camuy	18.4414	-66.8767
ROLON MIRANDA, WANDA	RD 364 KM 0.5	MOROVIS	18.3433	-66.4183
ROMAN CATHOLIC CHURCH IN PUERTO RICO WKVM AM	TWR 1 RD 833 KM 10.0 .6 MI N	GUAYNABO	18.36	-66.1378
ROMAN CATHOLIC CHURCH IN PUERTO RICO WKVM AM	TWR 2 RD 833 KM 10.0 .6 MI N	GUAYNABO	18.3606	-66.1381
ROMAN CATHOLIC CHURCH IN PUERTO RICO WKVM AM	TWR 3 RD 833 KM 10.0 .6 MI N	GUAYNABO	18.3611	-66.1383
SBA Infrastructures, LLC	Carr. 932 Km. 2.7 Bo. Quebrada Sector Castro Cabazudo (PR13379-A)	San Lorenzo	18.2262	-65.9769
SBA Infrastructures, LLC	Carr. 155 Km. 53.3 Bo. Barahona	Morovis	18.3458	-66.4333

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Operational Communications					
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ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE	
SBA Infrastructures, LLC	Carr. 184 Km 29.1 Bo. Guavate (PR13380-A)	Cayey	18.1365	-66.0789	
SBA Infrastructures, LLC	Carr. 928 Km. 4.0 Bo. Florida	San Lorenzo	18.1973	-65.9355	
SBA Puerto Rico	Finca Vista Alegre	Ponce	18.0647	-66.5506	
SBA Puerto Rico	143 El Tuque Industrial Park	Ponce	17.99	-66.6516	
SBA Puerto Rico	Terreno Vicente Rios, Bo. Santana, Arecibo	Barceloneta	18.4405	-66.646	
SBA Puerto Rico	Finca Basallo	Juana Díaz	18.0296	-66.5618	
SBA Puerto Rico	Sector Cuba	Mayaguez	18.2369	-67.1473	
SBA Puerto Rico	Carr 545 Km 2.3 Interior Sector Las Gaviás	Santa Isabel	18.0259	-66.3986	
SBA Puerto Rico	Carr 596 inicio, Sector Caribe	Los Llanos	18.0704	-66.3971	
SBA Puerto Rico	PR-200 km O Sector Gambiche, Monte Santo Ward	Vieques	18.1434	-65.4383	
SBA Puerto Rico	Llave Ward/P.O. Box 953	Isla De Vieques	18.1119	-65.4958	
SBA Puerto Rico	PR 193-28 Fernandez Garcia	Luquillo	18.3788	-65.7201	
SBA Puerto Rico	BO. Mamey, Sector Santa Gallo	Juncos	18.2449	-65.9349	
SBA Puerto Rico	Pr 1 KM 62.4 Interior BO. LA	Lapacayey	18.0928	-66.1984	
SBA Puerto Rico	Carr. 2 KM 19.8 BO Candelaria	Toa Baja	18.4087	-66.2329	
SBA Puerto Rico	State Road PR-132 km. 22.1 Canas Ward	Ponce	18.0237	-66.6522	
SBA Puerto Rico	350 Calle 1	Brenas	18.4649	-66.3426	
SBA Puerto Rico	Berwinds Golf Course -Road #187, km 4.5	Rio Grande	18.4167	-65.8286	
SBA Puerto Rico	Bairoa Shopping Center	Bairoa	18.2582	-66.038	
SBA Puerto Rico, Inc.	RD 865 KM 2.9 CANDELARIA WARD	TOA BAJA	18.4183	-66.2325	
SBA Puerto Rico, Inc.	RD 173 KM 9.5 RIO WARD	AGUAS BUENAS	18.3125	-66.0908	
SBA Puerto Rico, Inc.	RD 853 KM 2.4 BARRAZA WARD	CAROLINA	18.3614	-65.955	
SBA Puerto Rico, Inc.	PES132 / CHUPACALLOS	CEIBA	18.2672	-65.6639	
SBA Puerto Rico, Inc.	(PMT 059 MADISON) RD#5 KM 5.5	Catano Zona Urbana	18.4118	-66.146	
SBA Puerto Rico, Inc.	(PMT068 FINCA MOROS II) RD. 176 KM. 10.9	SAN JUAN	18.3217	-66.0328	
SBA Puerto Rico, Inc.	RD 185 KM 0.3 INDUSTRIAL CANO'VANAS	CANO'VANAS	18.3719	-65.9008	
SBA Puerto Rico, Inc.	REXVILLE ST. DD-56	BAYAMON	18.3594	-66.195	
SBA Puerto Rico, Inc.	Betania Street	Trujillo Alto	18.3719	-65.9918	
SBA Puerto Rico, Inc.	PMT 041 Carolina Speedway Road #3	Carolina	18.3858	-65.9403	
SBA Puerto Rico, Inc.	PMT 43 Garaje Loiza, Road 187	Loiza	18.4294	-65.8661	
SBA Puerto Rico, Inc.	PMT 022 CAMINO ALEIANDRINO, LOS FRAILES	GUAYNABO	18.3639	-66.0981	
SBA Puerto Rico, Inc.	PMT44 Le nera Landy, Cienaga Baja	Rio Grande	18.3763	-65.8642	

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Operational Communications					
Antenna Structure (FCC Registration) (656)					
ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE	
SBA Puerto Rico, Inc.	Alturas Venus Gardens, 65th Infantry Rd., KM 2.6	Rio Piedras	18.377	-66.0318	
SBA Puerto Rico, Inc.	PMT 88 ROAD # 172, IGLESIA DE DIOS	GAGUAS	18.2105	-66.0613	
SBA Puerto Rico, Inc.	PSE 119 CARR. 198, JACARANDA CEIBA SUR	JUNCO	18.1985	-65.9009	
SBA Puerto Rico, Inc.	PES 122 HUMACAO TOLL, BUENA VISTA ARRIBA	HUMACAO	18.1124	-65.8171	
SBA Puerto Rico, Inc.	PNO 151 RD. #2, KM 42.7, FINCA SANTIAGO	VEGA BAJA	18.4439	-66.4283	
SBA Puerto Rico, Inc.	PNO 160, FINCA RIOS, ROAD #638	ARECIBO	18.4381	-66.6764	
SBA Puerto Rico, Inc.	PNO 161 BO. Higuillales, Efron Dorado (PR05201-A)	Dorado	18.4552	-66.29	
SBA Puerto Rico, Inc.	PMT 070 FINCA OCASIO II, CUPEY ALTO	RIO PIEDRAS	18.304	-66.0519	
SBA Puerto Rico, Inc.	PMT 065 COQUI GAS STATION, CUPEY	RIO PIEDRAS	18.3414	-66.0558	
SBA Puerto Rico, Inc.	PMT 55 PAJAROS, CANDELARIA	TOA BAJA	18.4021	-66.2133	
SBA Puerto Rico, Inc.	PMT 53 ROAD # 1, CARMEN HILLS, LA PAVA	GUAYNABO	18.339	-66.0971	
SBA Puerto Rico, Inc.	PNO 152 FINCA LUIS PRIETO, COTTO NORTE	MANATI	18.444	-66.46	
SBA Puerto Rico, Inc.	PMT 048 CLUB DE LEONES	CATONO	18.4598	-66.1449	
SBA Puerto Rico, Inc.	PSO 103 Hacienda Luna, Descalabado Ward (PR05205-A)	Santa Isabel	18.0259	-66.4154	
SBA Puerto Rico, Inc.	Barrio Mameyes	Palmer Comunidad	18.3724	-65.7731	
SBA Puerto Rico, Inc.	PMT 81 ROAD 189 KM 5.5 TALLER FAMILIAR	GURABO	18.2475	-65.9899	
SBA Puerto Rico, Inc.	PNO 155 GARROCHALES WARD	BARCELONE TA	18.4443	-66.5669	
SBA Puerto Rico, Inc.	PWE 190 PR 311 SABANA ALTA SECTOR	CABO ROJO	18.1229	-67.1468	
SBA Puerto Rico, Inc.	PEDRO GREEN STATE ROAD 3 BOTIJAS WARD	NAGUABO	18.1973	-65.7004	
SBA Puerto Rico, Inc.	PNO 145 RD #2 ESPINOSA IND. PARK	DORADO	18.402	-66.2973	
SBA Puerto Rico, Inc.	HACIENDA LAS MARICIS	VEGA BAJA	18.3862	-66.4278	
SBA Puerto Rico, Inc.	Finca Morales, Barrio Piedras Blancas	Lajas	18.0347	-67.0632	
SBA Puerto Rico, Inc.	Carr. 730 Km. 0.9 Bo. Maton Abajo	cayey	18.1331	-66.2023	
SBA Towers II LLC	CARR P.R.-453KM 8.2 SECT EL COQUI BO.PILETAS LARES,PR.	Lares	18.3559	-66.8825	
Schafer and Brown Electronics	CARRETERA 143 KM 41.7 BO BERMEJALES	OROCOVIS	18.1741	-66.446	
SHERMAN BROADCASTING CORPORATION DBA = RADIO WOSO AM	TWR 1 - 1.5 MI SE OF RT 165	TOA ALTA	18.3664	-66.2542	
SHERMAN BROADCASTING CORPORATION DBA = RADIO WOSO AM	TWR 2 - 1.5 MI SE OF RT 165	TOA ALTA	18.3667	-66.2545	
SHERMAN BROADCASTING CORPORATION DBA = RADIO WOSO AM	TWR 3 - 1.5 MI SE OF RT 165	TOA ALTA	18.367	-66.2547	

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Operational Communications					
Antenna Structure (FCC Registration) (656)					
ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE	
Sistema Universitario Ana G. Mendez	3.7 km NW of Penuelas, PR	Penuelas	18.0781	-66.7483	
Soluwise, Inc.	N-11 Marginal Los Angeles	Carolina	18.4315	-66.0066	
SOUTHERN TELECOMMUNICATIONS FACILITIES CORP	CERRO DE PUNTA TORO NEGRO FOREST	PONCE	18.1722	-66.5919	
SOUTHWESTERN BROADCASTING CORP DBA = CHANNEL 44 WVEO TV	BO ATALAYA	AGUADA	18.3164	-67.1781	
Sprintcom, Inc.	Carretera 149 Km. 65.9 Barrio Lomas Sector La Hacienda Mercado	Juana Díaz	18.0619	-66.5046	
Sun Investment Company, Inc.	CALLE SAN JORGE ESQ AVENUE PONCE DE LEON	SANTURCE	18.4424	-66.0639	
TELECINCO INC DBA = WORA TV	PR RD 120 KM 15.2 MONTE DEL ESTADO	MARICAO	18.1486	-66.9886	
TELECINCO INC DBA = WORA TV	PR RD 120 KM 15.2 MONTE DEL ESTADO	MARICAO	18.1489	-66.9889	
TELECOP COMMUNICATIONS, INC.	PSO 095 SIERRA DE CAYEY, CARR. 170, MONTON ARRIBA	CAYEY	18.104	-66.1738	
TELECOP COMMUNICATIONS, INC.	PMT 081 TALLER FAMILIAR, RD. 189, KM 5.5	GURABO	18.2478	-65.9899	
TELECOP COMMUNICATIONS, INC.	PSO 127, GRANJA CAGUAS, BEATRIZ WARD	CAGUAS	18.1795	-66.0898	
TELECOP COMMUNICATIONS, INC.	PMT 19 LA MARKETA, BAIROA	CAGUAS	18.2569	-66.0442	
TELEMUNDO OF PUERTO RICO LICENSE INC DBA = TELEMUNDO WKAQ TV	RD 184 KM 21.6 LA SANTA PEAK	CAYEY	18.1133	-66.0527	
Televicentro of Puerto Rico, LLC	CERRO LA SANTA	CAYEY	18.1097	-66.0511	
Televicentro of Puerto Rico, LLC	ATOP MONTE JAYUYA	JAYUYA	18.1678	-66.5769	
Televicentro of Puerto Rico, LLC	MONTE DEL ESTADO PEAK	MARICAO	18.1481	-66.9829	
The Catholic, Apostolic & Roman Church in Puerto Rico	WORO-TV Studios, Iturregui Ave.- Final & Corner of Baldorioty de Castro Ave.	CAROLINA	18.4222	-65.9893	
T-Mobile Puerto Rico LLC	FERNANDEZ JUNCOS AVE 160-163	OLD SAN JUAN	18.4641	-66.1018	
T-Mobile Puerto Rico LLC	ROOSEVELT AVE 1245	PUERTO NUEVO	18.4139	-66.0875	
T-Mobile Puerto Rico LLC	BARBOSA ST 414	RIO PIEDRAS	18.4179	-66.0439	
T-Mobile Puerto Rico LLC	DISTRITO DE GUAYNABO CALLE VANDA LOS FILTROS	GUAYNABO	18.3845	-66.1136	
T-Mobile Puerto Rico LLC	PONCE DE LEON AVE COR CONDADO ST	SANTURCE	18.4506	-66.0751	
T-Mobile Puerto Rico LLC	255 ROOSEVELT AVENUE	HATO REY	18.4233	-66.0756	
T-Mobile Puerto Rico LLC	CORNER OF ARZUAGA & MONSENIOR STREET	RIO PIEDRAS	18.3975	-66.0483	
T-Mobile Puerto Rico LLC	CENTRO COMMERCIAL BERWIND COUNTRY CLUB	RIO PIEDRAS	18.3972	-66.0078	
T-Mobile Puerto Rico LLC	INSULAR ROAD #57 CANGREJOS ARRIBA	CAROLINA	18.4269	-65.9903	
T-Mobile Puerto Rico LLC	RD 849 KM 2 HM 3.5 SANDO DOMINGO WARD	SAN JUAN	18.3797	-66.0042	

Operational Communications					
Antenna Structure (FCC Registration) (656)					
ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE	
T-Mobile Puerto Rico LLC	DESPIO FINAL ST RD 3 FLORENCIO WARD	FAJARDO	18.3258	-65.6642	
T-Mobile Puerto Rico LLC	MERCANTIL PLAZA PUEBLO VIEJO WARD	GUAYNABO	18.4232	-66.1181	
T-Mobile Puerto Rico LLC	(PMT071 PEAJE CAQUAS) RD. #1 INT.#798	CAQUAS	18.2819	-66.0339	
T-Mobile Puerto Rico LLC	RD# 165 KM 12 RIO LAJAS WARD. (PNO149 LA CARRETA)	TOA ALTA	18.3978	-66.2582	
T-Mobile Puerto Rico LLC	RD#2 KUI6Z SABANA HOYOS WARD (PNO158)	BARCELONE TA	18.4386	-66.6067	
T-Mobile Puerto Rico LLC	PMT 47-BOULEVARD LEVITTOWN	TOA BAJA	18.4553	-66.1875	
T-Mobile Puerto Rico LLC	PSO 105 ROAD 535, RIO CANAS WARD	JUANA DIAZ	18.0339	-66.4742	
T-Mobile Puerto Rico LLC	PMT 045, MARRERO AUTO, ROAD # 3 AND 956	RIO GRANDE	18.3747	-65.8256	
T-Mobile Puerto Rico LLC	PMT 20 HOGAR CREA, LOS FILTROS	GUAYNABO	18.3834	-66.1104	
T-Mobile Puerto Rico LLC	PNO 144 POTRERO KUILAN, RD. #694, KM 1.7	DORADO	18.4252	-66.2961	
T-Mobile Puerto Rico LLC	PNO 148 VISTA VERDE	VEGA BAJA	18.4408	-66.39	
T-Mobile Puerto Rico LLC	PSE 091 HOGAR CREA BO GURABO BAJO	JUNCOS	18.2456	-65.919	
T-Mobile Puerto Rico LLC	ARECIBO MEDICAL PR0164	ARECIBO	18.4781	-66.7555	
T-Mobile Puerto Rico LLC	Pasco Del Sur Plaza, Los Caobos Avenue	Ponce	18.0051	-66.5844	
T-Mobile Puerto Rico LLC	Condominio la Ceiba, Road #133 and Sabio Street	Ponce	18.0075	-66.6054	
TowerCel, Inc.	Guayama	Guayama	17.9813	-66.0993	
TowerCel, Inc.	Beatriz	Caguas	18.1565	-66.0839	
TowerCel, Inc.	Rio Blanco	Naguabo	18.1921	-65.7098	
TowerCel, Inc.	Garrochales	Arecibo	18.4348	-66.6042	
TowerCel, Inc.	Rio Blanco	Rio Blanco	18.1921	-65.7098	
TowerCo Assets LLC	km 0.5 INT PR771 Sector Colinas de Monte Verde	Barranquitas	18.1903	-66.3119	
TowerCo Assets LLC	PR 861 Sector Los Torres	Tao Alta - Bayamon	18.3704	-66.2074	
TowerCo Assets LLC	CARRETERA #753, KM 0.4	Arroyo	17.9788	-66.0548	
TowerCo Assets LLC	Carr #844, Km. 3.0, Camino La Cupey Bajo	Rio Piedras	18.3532	-66.0444	
TowerCo Assets LLC	Carrera 836 Km 2.7 Sector Moscu Bo. Camarones	Guaynabo	18.3358	-66.1239	
TowerCo Assets PR LLC	Ave. 65 de Infanteria - PR23XC234C	Carolina Zona Urbana	18.3848	-65.9665	
TowerCo Assets PR LLC	7 Simon Madera Ave	Rio Piedras	18.3996	-66.0186	
TowerCo Assets PR LLC	State Rd PR791, Km 1.9 El Verde Sector	Comerio	18.2169	-66.1833	
TUA, LUIS DBA = LAT COMMUNICATION	PR RD 928 SECTOR LOS MACHOS	CEIBA	18.2825	-65.6742	
TURABO RADIO CORPORATION	AVE MUNOZ MARIN CALLE 24	CAGUAS	18.2458	-66.0231	
Union Holdings, Inc.	Mercantil Plaza Building, Ponce De leon Avenue	Hato Rey	18.4321	-66.0595	

Operational Communications				
Antenna Structure (FCC Registration) (656)				
ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE
Univision Radio Puerto Rico, Inc.	RT 167 1.61 KM SW (TWR 1)	CATANO	18.43	-66.135
Univision Radio Puerto Rico, Inc.	RT 167 1.61 KM SW (TWR 2)	CATANO	18.4311	-66.1358
Univision Radio Puerto Rico, Inc.	WKAQ SITE CERRO MARQUESA 1.5 MILES N	AGUAS BUENAS	18.2785	-66.1101
Univision Radio Puerto Rico, Inc.	CALLE SANTA MARIA, PLAYA	PONCE	17.9878	-66.6221
Univision Radio Puerto Rico, Inc.	RAMIREZ PABON FINAL ST GUANAJIBO HOMES	MAYAGUEZ	18.1752	-67.1707
Univision Radio Puerto Rico, Inc.	RAMIREZ PABON FINAL ST GUANAJIBO HOMES	MAYAGUEZ	18.1755	-67.1699
Univision Television Group, Inc.	0.4 mile NW of town of Magueyes	Magueyes	18.0458	-66.6542
WAPA (AM)	PR-874 BO HOYO MULAS	CAROLINA	18.4028	-65.9464
WAPA NOTI RADIO BROADCASTING	RD 874 KM 2.3 HOYO MULAS	CAROLINA	18.4027	-65.9479
WAPA NOTI-RADIO BROADCASTING	PR-874 BARRIO HOYO MULA9.	CAROLINA	18.4026	-65.9471
WAPA-AM	PR-874 BO. HOYO MULAS	CAROLINA	18.4026	-65.9474
WESTERN BROADCASTING CORPORATION OF PR DBA = WOLE TV CANAL 12	PICO ATALAYA 4.5 MI SE	RINCON	18.3122	-67.1914
WISO-AM	SECTOR PLAYITA MACHETE	GUAYAMA	17.9516	-66.1138
WJIT BROADCASTING CORP	TWER 2 BO BAJURA	VEGA ALTA	18.4247	-66.3386
WJIT BROADCASTING CORP	TWR 3 BO BAJURA	VEGA ALTA	18.425	-66.3386
WJIT BROADCASTING CORP.	TWR 1 BO BAJURA	VEGA ALTA	18.425	-66.3386
WLII/WSUR License Partnership G.P.	CERRO MARAVILLA	JAYUYA	18.1528	-66.5542
WLII/WSUR License Partnership G.P.	MONTE JAYUYA	JAYUYA	18.1672	-66.5764
WLII/WSUR License Partnership G.P.	CERRO MARQUESA	AQUAS BUENAS	18.2797	-66.1125
WLII/WSUR, Inc.	CERRO MARQUESA	AQUAS BUENAS	18.2797	-66.1125
WLII/WSUR, Inc.	MONTE JAYUYA	JAYUYA	18.1697	-66.5767
WLII/WSUR, Inc.	.6 KM E OF HWY 10	PONCE	18.0275	-66.6356
WLII/WSUR, Inc.	2.4 MI NNW	AQUAS BUENAS	18.2728	-66.1133
WLII/WSUR, Inc.	5.6 KM NW	ANASCO	18.3217	-67.1739
WLII/WSUR, Inc.	RD 129 RAMAL 653	ARECIBO	18.4539	-66.7542
WLII/WSUR, Inc.	Smallwood Building, Stop 8, Puerta de Tierra	San Juan	18.4627	-66.0918
WOIZ DBA = RADIO ANTILLAS OF HARRIET BCASTERS OF PR	BARRIO MAGAS ARRIBA	GUAYANILLA	18.0156	-66.7725
WOQI INC DBA = WOQI	AVE 65 DE INFANTERIA BO PAMPANOS KM 27.2	PONCE	17.9889	-66.6289
WOYE INC DBA = WOYE	POST & BOSQUE ST RADIO CENTRO BLDG	MAYAGUEZ	18.2047	-67.1406
WPAB INC	65 INFANTERIA BO PAMPANOS RD	PONCE	17.9889	-66.6296

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Antenna Structure (FCC Registration) (656)				
ENTITY	ADDRESS	CITY	LATITUDE	LONGITUDE
WPRA INC DBA = WPRA WXRF SOUTHWESTERN BROADCASTING CORP	PR RD 102 KM 5.8 INTERIOR	MAYAGUEZ	18.1789	-67.1683
	RD 3 LAS MAREAS	GUAYAMA	17.9589	-66.1383
	P.R.ROAD 343	MAYAGUEZ	18.1857	-67.1159
	ROAD #2, KM 65.4, 1.1 KM SOUTH, BO. FACTOR	ARECIBO	18.4518	-66.6371
	0.7 kilometers west of Hwy 418 on Hwy 439	Aguadilla	18.398	-67.163
	TERMINAL B LUIS MUNOS MARIN AIRPORT	CAROLINA	18.4386	-66.0017
	1.45 km W of HWY 362 & 120 Junction 0.5 km S of HWY 120@Torre de Observacion	Maricao	18.1405	-66.9818
	2.57 kilometers northwest of Ceiba	Ceiba	18.2791	-65.6688
	APROX. 2 MI. SOUTH OF ISABEL II	Isabel II	18.1286	-65.441

11.0 PUBLIC AND PRIVATE RESOURCES

Graph 11A: Public and Private Services and Resources



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PUERTO RICO CATASTROPHIC PLANNING ANNEX
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Table 11A.1: Private Resources- Wal-Mart

Public and Private Services and Resources					
Wal-Mart Locations (13)					
Name	Store Number	Address	City	Longitude	Latitude
Barceloneta Walmart Supercenter Store	#2302	Carr #2 Km 26.6	Barceloneta	-66.560395	18.445383
Ponce Walmart Supercenter Store	#5793	#333 Carr #14, Cotto Laurel	Ponce	-66.57034	18.11091
Ponce Walmart Store	#2026	Carretera Estatal #3	Ponce	-66.623541	18.100923
Hatillo Walmart Store	#1854	Plaza Del Norte Carr #2 Km 81.9	Hatillo	-66.796487	18.410609
Manati Walmart Supercenter Store	#3716	Plaza Monte Real	Manati	-66.490255	18.420411
Santa Isabel Walmart Supercenter Store	#3693	Carr Estatal #153 Km 7.2	Santa Isabel	-66.365242	18.007657
Isabela Walmart Store	#2085	3535 Military Ave	Isabela	-67.023544	18.470266
Mayaguez Walmart Store	#2067	975 Avenue Hostos Ste 2100	Mayaguez	-67.099188	18.207307
Bayamon Walmart Store	#2501	501 West Main Ave	Bayamon	-66.159083	18.411072
Cayey Walmart Supercenter Store	#2721	Plz Calle Centl State 1 735	Cayey	-66.161979	18.105983
Guayama Walmart Store	#2072	Ave Los Veteranos	Guayama	-66.0872	17.980141
Caguas Walmart Supercenter Store	#2449	Rafael Cordero Ave #301	Caguas	-66.028192	18.187929
Carolina Walmart Supercenter Store	#2423	Parque Escorial	Carolina	-65.954682	18.390998

Table 11A.2: Private Resources- Sam's Club

Public and Private Services and Resources				
Sam's Club Locations (11)				
Name	Address	City	Longitude	Latitude
Barceloneta Sam's Club	1145 Carr.#2	Barceloneta	-66.560395	18.445383
Bayamon Sam's Club	Carr. 830 Km 0.1 Bo. Cerro Gordo	Bayamon	-66.192028	18.347171
Bayamon Sam's Club	1500 Camerio Ave	Bayamon	-66.159083	18.411072
Caguas Sam's Club	Ave Munoz Marin	Caguas	-66.050639	18.212213
Carolina Sam's Club	Pr #3 Plaza Escorial	Carolina	-65.954682	18.390998
Carolina East Sam's Club	Carr. 3 Km 15.2 Bo Canovanillas	Carolina East	-66.028896	18.442016
Hatillo Sam's Club	Carr. 2 Km 84.2 Bo Carrizales	Hatillo	-66.776598	18.455854
Humacao Sam's Club	P.O. Box 920	Humacao	-65.756332	18.167934
Mayaguez Sam's Club	Western Plza Shopping Center	Mayaguez	-67.099188	18.207307
Ponce Sam's Club	2180 Eduardo Ruberte Ave	Ponce	-66.614539	18.060502
San Juan Sam's Club	Pr-2 Km 2.2 Kennedy Ave.	San Juan	-66.062588	18.391662

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